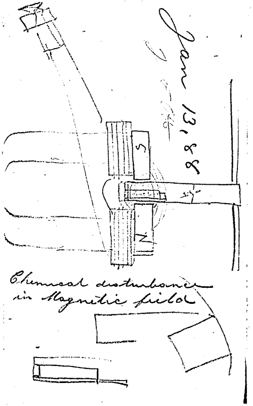
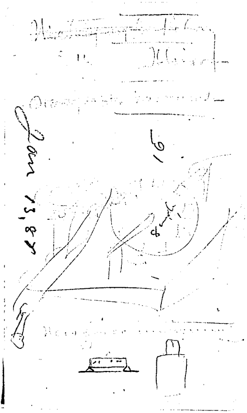
UNBOUND NOTES AND DRAWINGS
1888

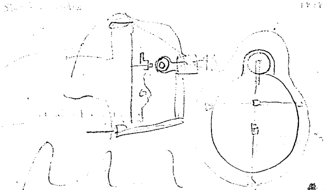


Jan 13, 88

Chemical disturbance in Magnetic field



Jan 13, 87

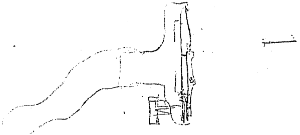


Finished

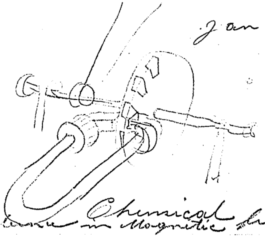
Jan 13, 88

Sketches + Notes

Jan 12, 88



Finished
Feb 25 88



Jan 13, 85

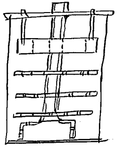
Chemical
disturbance in Magnetic field

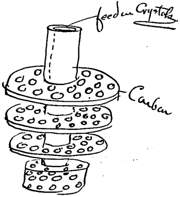
Put in Record. 18th Jan. 88

Orange 13 Jany 1888

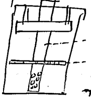
Connelly

Chromic acid by a new process recently discovered is now obtained in fine crystals and as cheap as Cupric Sulphate, This being the Case perhaps we can ~~aw~~ now make a Gravity Cell.





John Ott Can design you a simple Cell to test Experiment Amalgamated Zinc, 15 pct SO_4 and after battery set up feed in Chromic acid Crystals a single plate would answer at first



Carbon hollow rod

Carbon plate 1/8 thick with lot 1/4 inch holes. & put on Carbon 1/2 way up —

Dickson

Jan. 18/88

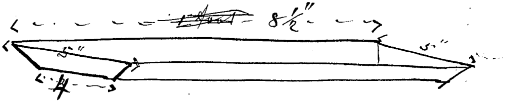
Dear John —

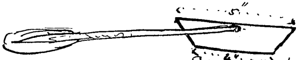
Attached please find sketch of pan roaster to be made of 1/16" sheet iron so that the iron will keep true or fairly so by heating.

The Scraper to fit snug with iron handle rivited & wood end —

Wm K L Dickson

Inside measurements

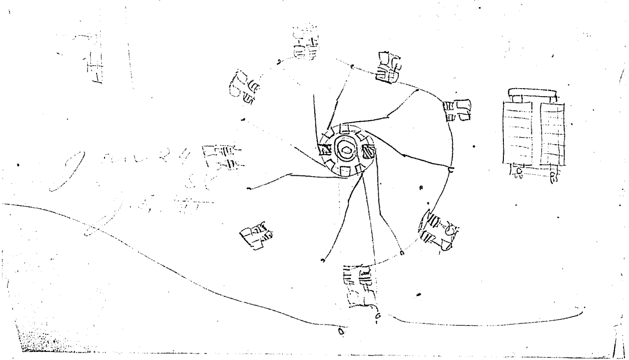

~~1 foot~~ 8½"
3"
5"
4



Scraper to
fit snug into pan

Sheet iron
1/16" true
Please have this
made immediately
if possible –

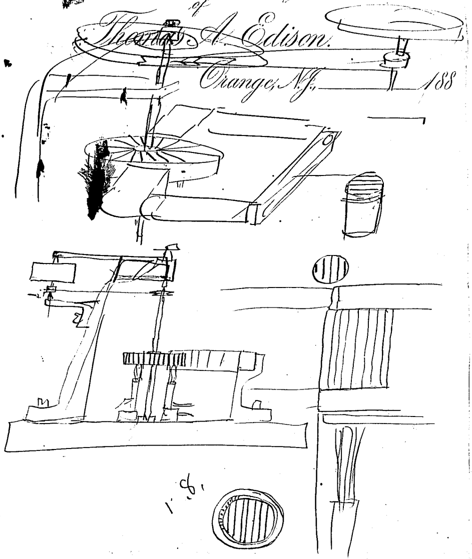
Sketches

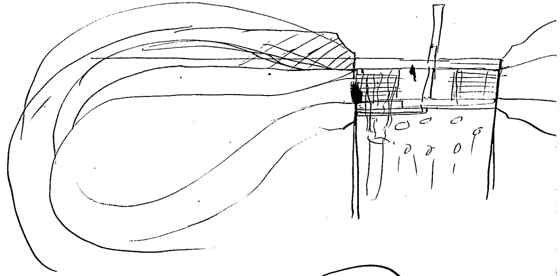


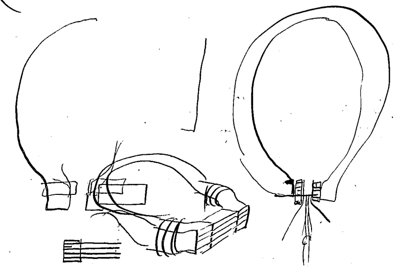
Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.
Orange, N.J., 188

Mina M. Edison
Feb. 3/88







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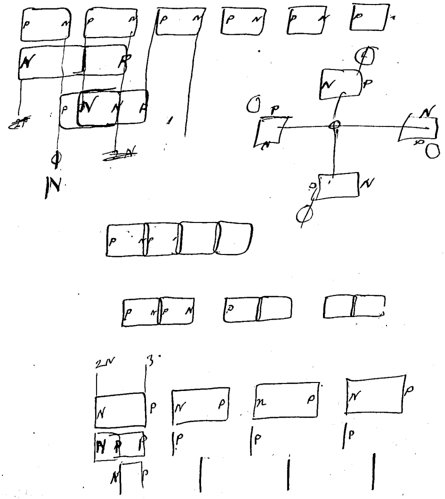
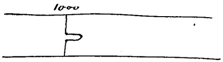
Orange, N.J., ______188

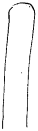




16/50.0/3.12
48
20
16
40

31,

48 50.



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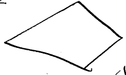

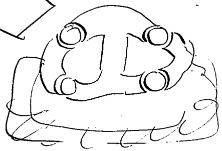

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From the Laboratory
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Thomas A. Edison.

Orange, N.J., ________ 188

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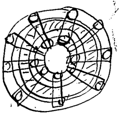
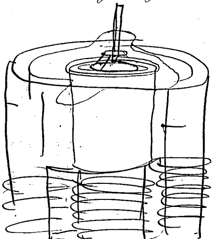
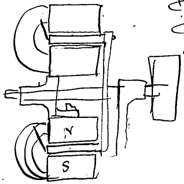
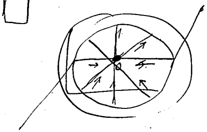
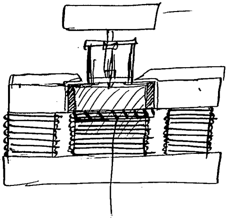
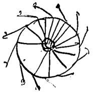


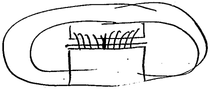


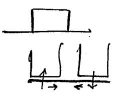


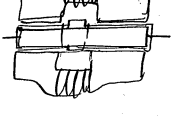








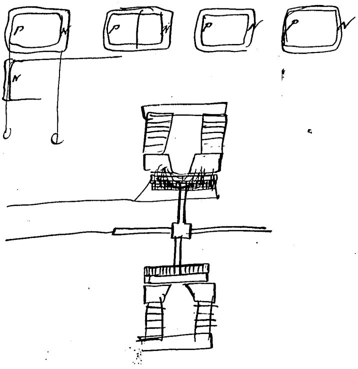




Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Orange, N.J., ________188



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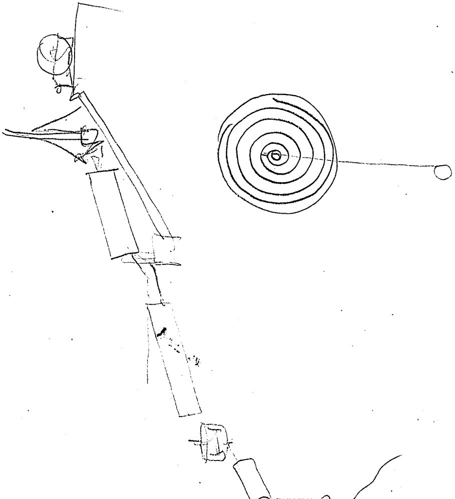
Orange, N.J., ________ 188



Cable Address "Edison, New York."

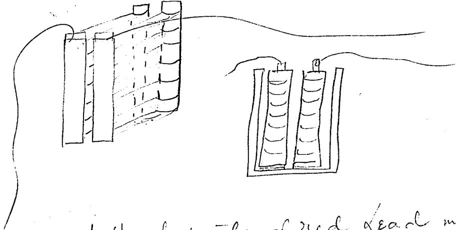
From the Laboratory
of
Thomas A. Edison.

Subject,

Orange, N.J., Feb. 17 1888

Kennelly —

Have made 2 cells like the Lelande with lead grids use glass cells



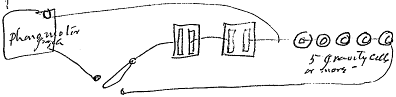
Put thick paste of red Lead mixed with the Regular Solution that goes in the Cell proper — Then form them in regular way — when good —

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, ______________ Orange, N.J., ____________ 188

put them thus—


phonograph motor
5 gravity cells or more—

I hope by this means to use 2 cells of storage battery for the through motor & throwing them in the constant battery when not in use—

E

Phono.

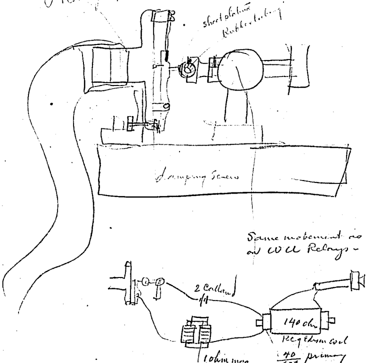
From the Laboratory
of
Thomas A. Edison.

Finished
Feb 25 88

Orange, N.J., ____________ 188

John Ott

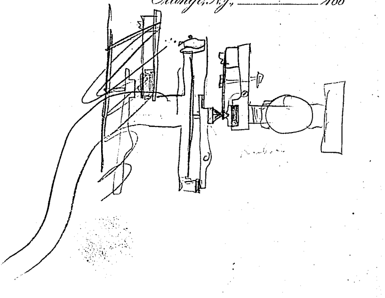
Platina Transmitter


Phonograph
sheet platina
Rubber tubing
Damping Screw
2 Callaud
140 ohm
Reg Edison coil
40/100 primary
1 ohm mag

Same movement as on WU Relays –

From the Laboratory
of
Thomas A. Edison.

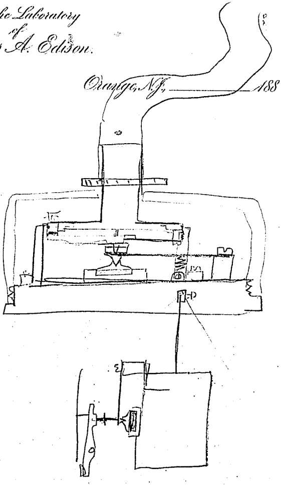
Orange, N.J., ____________ 188



Finished Feb 25 88

From the Laboratory
of
Thomas A. Edison.

Orange, N.J., ________ 188



Finished
Feb 25, 88

From the Laboratory
of
Thomas A. Edison.

Orange, N.J., 25. 2. 1888

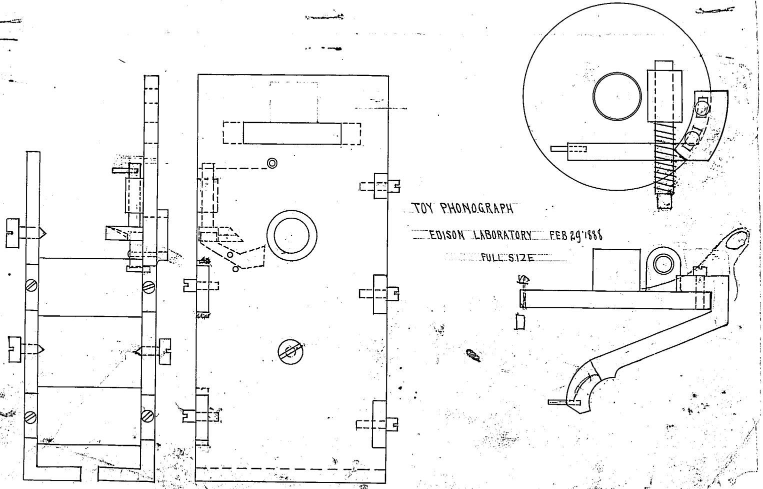
List of Requirements for experiments to be made for Mr. Edison

1) Coil heating experiment
1 doz spools of wood with hole thro' shaft to take thermometer-bulb.

2) Carbon grid for chromic acid battery.

3) 4 Leaden grids instead of iron to make a secondary) Lalande cell.
Two grids to fit in one glass cell.

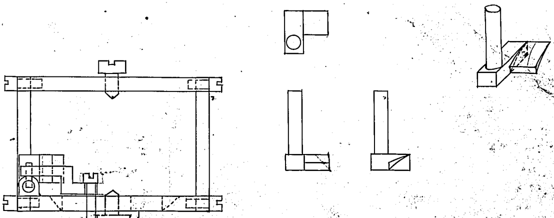
Finished
Feb 25, 88



TOY PHONOGRAPH

EDISON LABORATORY FEB 29'1888

FULL SIZE



Notes & Articles Kennelly.

From the Laboratory
of
Thomas A. Edison.

Orange, N.J., 2nd March 1888

Having given an experimental pyro platino-carbon cell in which the active surfaces were ½a sq: in: of each element with a separation of 3/4" and which gave at ~~a~~ white heat an E.M.F. of 1.6 volts with an I.R. of 13 ohms, What would be under similar conditions the resistance and output of a cell 6 feet X 1, having three platinum and two stout carbon plates each 6'X1' whose own dimensional res: are assumed as negligibly small thus offering 24 sq feet of active surface at a separation of 1 inch?

The surface of the imaginary cell would be 24 X 144 = 3456 sq: in: or 6912 times the area of the experimental cell. If the separation were 3/4", it would therefore offer internally

$$\frac{13}{6912} \text{ or } 0.00188\,\omega.$$

but the separation is to be $\frac{1}{3}$rd greater or 1". thus the res: will be $\frac{4}{3}(0.00188) = 0.0025$ ohms

The current this cell would deliver through a res: equal to its own would be

$$\frac{1.6}{0.005} \text{ or } 320 \text{ amperes.}$$

The external energy would therefore be $\frac{1.6}{2} \times 320$ or 256 Watts or 0.34 H.P. that is $\frac{1}{3}$rd of a horsepower

No 21

V Saft Mexican alone

V Saft Mexican. ¼ weight Boiled Linseed
Melted.

V Saft Mexican - + equal quantity Coal tar

✓ Saft. Mexican - 50 parts 15 pts Linseed oil, [illegible] Wood Tar

✓ Copal Varnish 50 parts Saft Mexican, 50 parts

✓ Shellac 25 parts 15 parts Venice Turpentine
50 parts Saft Mexican

✓ Large Cake Insulation made by Cousins
at Menlo park -

Coal tar pitch 75 parts 25 pts Saft Mexican
Coal tar pitch 75 parts Linseed oil, 10 pts,
Coal tar pitch, 75 parts Ceresine 25 -

Omitted Mar 8 1888

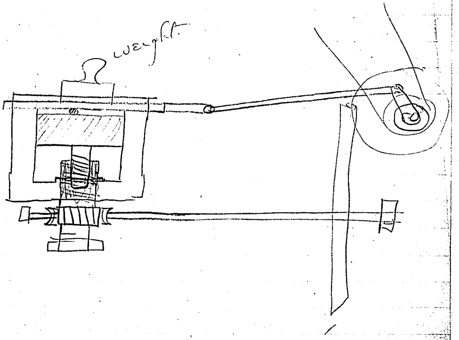
~~[illegible]~~ 50 pc
Mexican [illegible]

Filaments

John

March 29 1888

Design a machine for rolling out filiments 008 of plastic material like Lamp black & tar. Dont say what it is for — Kinney will work —



Mch 27/88

Wiley -

Get a piece of Brass Sieving 80 mesh/ put it in the plating bath so arranged as to plate evenly on both sides & perhaps arrange to move it & deposit on it enough Copper or Nickel that the holes will be made so small as to equal those of 150 mesh or bolting cloth, you can get a sample of the latter & compare with a glass -

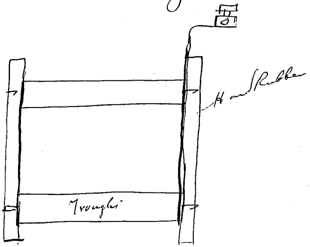
Edison

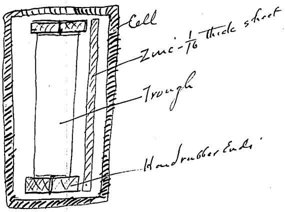
Also take a piece of Silk bolting Cloth - plumbago it well with the finest plumbago & see if you can put a coherent deposit over the fibres of Nickel or Copper - Especially Nickel so it remains flexible & still act as a sieve,

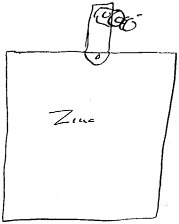
E

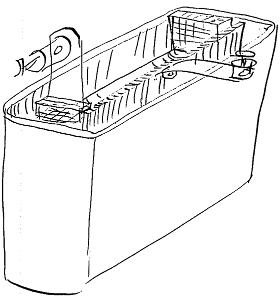
Kennelly.   Mch 22/88

I want to try some changes in the Lalande Battery Cell. Have Mr Ott make 25 cells this style & about this size — I think we have Hard Rubber Cells that will just suit.


Hard Rubber
Troughs


Cell
Zinc - $\frac{1}{16}$ thick sheet
Trough
Hardrubber Ends





3 Cells are to have tin troughs —
6 " " Lead "
6 " " Copper "
3 " " Nickel, "
1 " " Silver, "
1 " " Platinum "
2 " " Carbon "
1 " " Cast Antimony "
1 " " Thick Zinc "
1 " " Clean sheet iron,

To take place of Zinc plates in different Experiments have — 3 tin plates
6 Lead.
6 Copper
3 nickel
1 silver
1 platinum
2 Carbon —
1 Cast antimony
1 Cast iron
1 steel.
1 sheet Iron
1 Brass —

I want to use these cells to make experiments from time to time —

The first Experiments will be.

Take The 6 Copper cells —
put charge of Black oxide Copper in the Troughs and use amalgmated Zincs
Then in first cell put 30 pct Solution Borax,
2nd Cell 30 pct Lewis for a comparison cell,
3rd cell, Bicarbonate Soda, 4 cell Cyanide of Potassium, 5th cell Chloride of Zinc
6th cell, Chloride Ammonium —
After taking readings on these for one day on an exterior resistance relative to that of the large cells — Clean them all out well, reamalgmate the Zincs, & then make up another set with Cu Oxide in the 1st put 30 pct Nitrate Soda, 2nd Ammonia, 3rd Borate of Ammonia, 4th cell, Iodide of Potassium, 5th cell, Acetate of Zinc, 6th cell, Acid Potassium Sulphate —

Clean them again — Reamalgmate Zinc, but use in each of the 6 cells 30 pct Lewis but instead of Oxide Copper use in 1st. Peroxide of Manganese, Native. 2nd — Red oxide of Copper, 3rd ~~Chromate of~~ Red oxide of Mercury — 4th Magnetic oxide of iron — Blacksmith Scales — 5th — Lumps of Sulphuret of Soda or if we havent it Sulphuret of Potash — 6th Sulphuret of Copper.

4pm.

Clean & use amalgamated Zinc with 30 pct less but place in troughs — Chromate of Copper — 2nd Fluoride of Copper — 3rd Arsenate of Copper 4th Antimonate of Copper — 5th. "Carbonate of Copper 6th Ammonio-citrate of Copper ~~or~~ oxychloride of Copper.

In case you cannot get certain chemicals in last 2 sets experiments use as substitute Chloride of Lead, — Chloride Tin (proto) — Oxide of Bismuth, — all the oxides of Bismuth, Chloride of Mercury both proto & sub — Oxide of Titanium, Oxide Antimony — Tungstic Oxide, Malybdic oxide, Chromic oxide, all the oxides Except acid oxides Arsenic Oxide, In Nickel trough use oxides of nickel, with 30 pct Lewis

In Antimony Cell use 30 pct Lewis & all oxides antimony -

Regarding the other Cells I will give further instructions, There is no great hurry for these Experiments

E

Phono

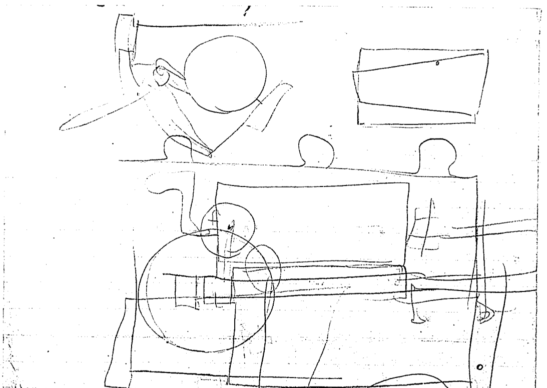
Apl 16 88
TAE

John

I want a hard Rubber shell made that is an Exact Copy of the wax Cylinder ready to go on phono. have it fit taper well & have a true outer surface I want to Coat the surface with waxes also have a metal one made say of Brass as hard rubber may give me trouble by Expansion

---

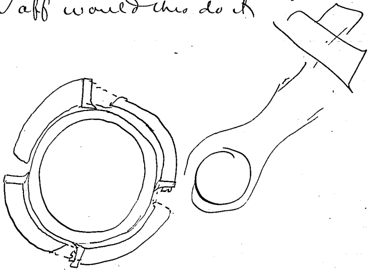
Have The Japanese furnished with some disks of thick & thin tin foil so as to weight the sheets in the hat micraphone



John Ott —

Apl 16 88

Do you think an inside reamer could be used to turn wax off while in phonogh Say it has been tried by turning off tool & talked full & I wanted a new surface, about 1/100 of inch must be taken off would this do it



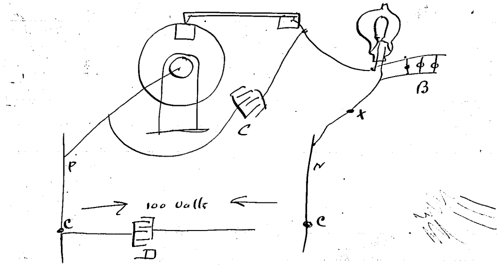
a handle on the End —

Thomas

John ~~Ott~~ -

Apl 26 88
TAE

Get a break wheel run by power



I want to see how much spark at break point when 1 2 3 or more regular 16 cp lamps are put on at B — Then with the addition of each Lamp I want to see how much condenser must be added to Kill the Spark —

a Key would perhaps answer as well as the break wheel, disconnect C + connect D of as many Microfarads as you have in Laboratory + see what Effect ~~Spark~~ Condenser D has on the Spark if any — I think it will make a spark on closing & stop it on opening — use regular line —

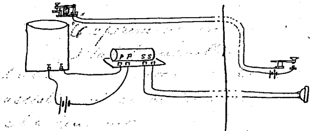
Sketch, notes

Experiment on
Hat transmitter

During the forenoon Mr Colgate assisted me so we tried actual speaking into the hat which one of us heard in the room of Mr Dixson through reciever. Several cases were tried & in most of the cases I can hear the speaking but no words are clear & distinct except a few such as helo.

In the afternoon I had no body to carry the experiment with so I tried the device of using tuneing folk instead of human voice, but it was utterly unsucessful on account of the lack of good soundin resonator & stand. Next I have tried to work a telegraph key from outside so that I can judge the sound by making & braking in the outside of the room.

Connections was like as follows;



First I have tried several kinds of cloth with graphite on simply & the result was

The most thin & tough cloth serves the best

Then tried the change of amount of graphite on & there was found no great difference except the cases of very defficient amount & very superfluous amount both of which were no good.

Next I have tried the effect of having tin foil on the back. This noticeably increased the efficiency. Thin tin foil seemed to be the best. The increase in number of foils did not improve much, ~~until~~ when the number get too large it seems to destroy the effect to certain extent

I have also tried the effect of guard ring over the edge. It dont make much difference, but it seems to be better without the ring (cloth & tin foil laying free & loose on the metal ends).

Next I have tried the effect of sprinkling sand over the tin foil. This desidedly improves the sound & seemed to give much accurate sound

Lastly I have tried the effect of ~~[illegible]~~ applying cut tin foil instead of single piece. like Thomson's Quadrant electrometer. In this case sound was quite distinct as in the former case.

Besides these several minute points were tried such as the way of keeping bat in speaking &c &c. It proved to be better not to keep bat too tight nor leaf too rigid. In every case it is better to give good chance of vibration.

In any case I ~~can~~ was not able to hear every sentense clear. In the best case I can understand a few words in a sentence & most of separate sound when pronounced clearly. And even in the worst case the make & brake sound of the sounder can be distinctly recognized.

The distance at which we have to speak seems to differ in different state of & position but generally within 2 3 inches near the outside rimb. In a distance beyond a ft we can hardly hear anything even in case when it was spoken very loudly.

April 16th 1888

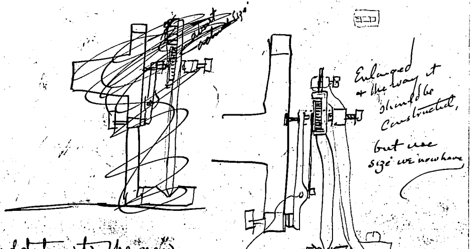
K. Sawai

Telephone by TAE 1

John   Apl 19 88

You will have to attend to these Expmts on telephones - so as to get the little Japanese started right -

In addition to the lever on platinum points you better arrange the Carbon button in the same way - Thus



Enlarged & the way it should be Constructed, but use size we now have

In addition to the new lever you are to put on platina transmitter make this rigging in case the lever doesnt give good satisfaction

JHO wit's
15 w.d.

next page

1 = 72
2 = 64
3 = 48
4 = 36
5 = 32
6 = 40
8 = 32
10 = 22

10 24
14 24
14 20

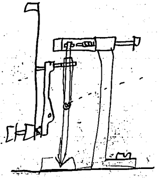
18
14
32
1/8

37
76
73
2196
2173
2265

Telephone by TAE - 2.

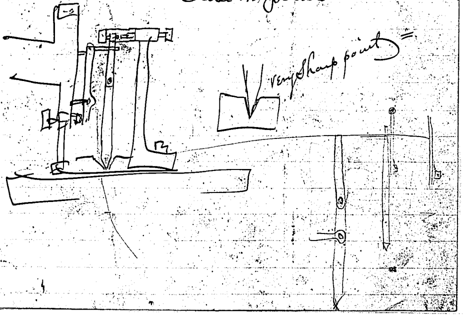
John Ott 2
Apl 19 88
TAE

120

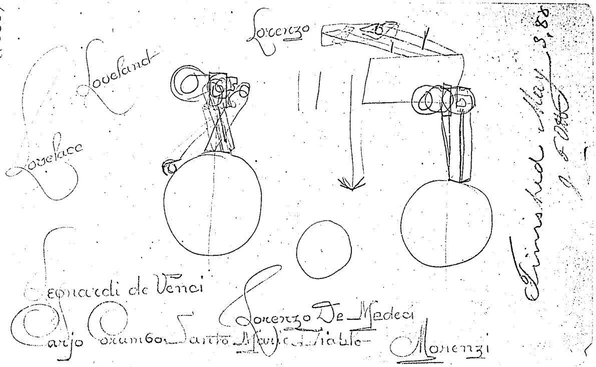


spring to put friction on
so point will work
no matter where diaphragm
is

The sliding friction should be
close to points

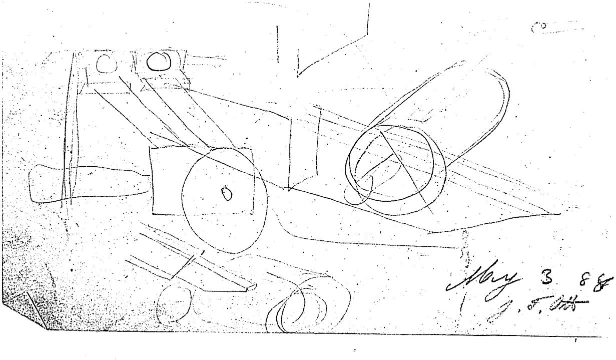


(1888)


Loveland
Lovelace
Lorenzo
Leonardi de Venci
Lorenzo De Medeci
Carjo Columbo Santo Monte Diablo
Morenzi

Finished May 5, 88
J. F. O.

(1888)

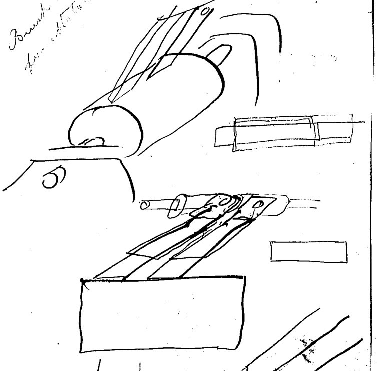


May 3 88
J. F. O.

From the Laboratory
of
Thomas A. Edison.

Orange, N.J., May 3 1888

Brush holder for Motors

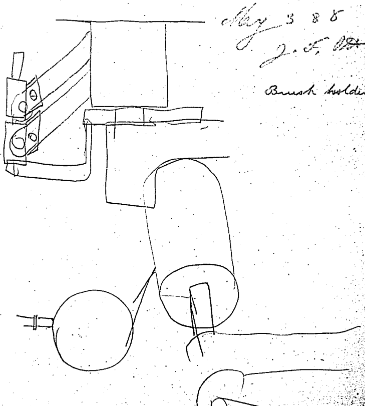


Finished

May 3 88

J. F. Ott

Brush holder



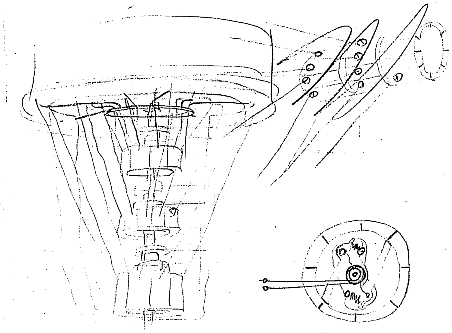
52 / 1935 (3.7
156
375
364
11

3.7 times heavier

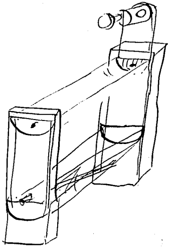
Gold	19.35
Quartz	2.65
Galina	7.6
Baric Sulp	4.6
Fluor spar	3.1
Clay	2.0
[illegible]	3.8 @ 4.0
Calamine	4.2
Pyrites	4.83 @ 5.2
Calcopyrite	4.1
Mispickel	6. @ 6-4

Thos. A. Edison.
May 26-1888

Mina M. Edison
May 26 - 1888

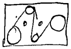


8

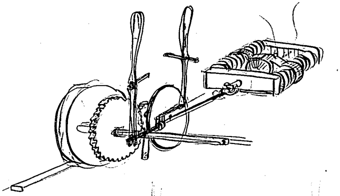


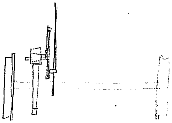
Mina M. Edison
May 26 - 1888

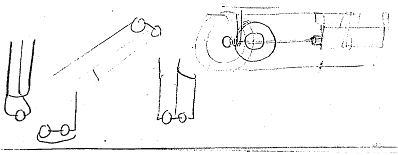
Mina M. Edison
May 26 - 1888



Mina M. Edison
May 26 - 1888

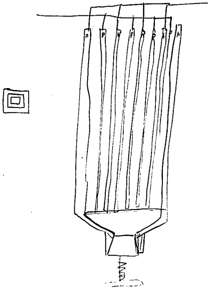


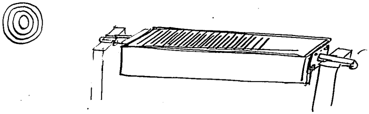




Mina M. Edison
May 26 - 1888

1.269 / 11.226





Mina M. Edison
May 26 – 1888

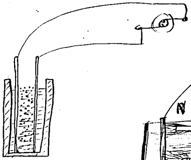


Fig 1

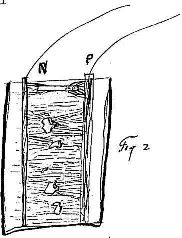
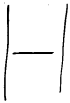


Fig 2

Mina M. Edison
May 26-1888

1 ohm 100 square inches -
1 square inch.
1/250 000 ohm -



4 . .

1 ohm
3 amperes.

3 m
3.

1/100,000 000 - of ampere -

100

1 ohm total ~~100~~ 1 ampere -
100 square inches $\frac{1}{100}$ amp
$\frac{1}{1000}$ - gold 1 Millionth of ampere -

100 ohms per square inch.

1 10 millionth of ampere -

3

1 ohm per square foot,

1 Volt on 10 m ohms

$\frac{1}{100}$ ohm per 150 lbs ore 3 Volts.

1
2
4
8
16
32

10
5
2.500.000
1 250 000
625-000
312.000.

9
44
3960.
15
19.800.

150) 2250 (15
150
750
75

44
9
3960.
96
23760
35640

380 | 60

8 hp for 150 lbs -

1 hp per tons, for 10 hours
2

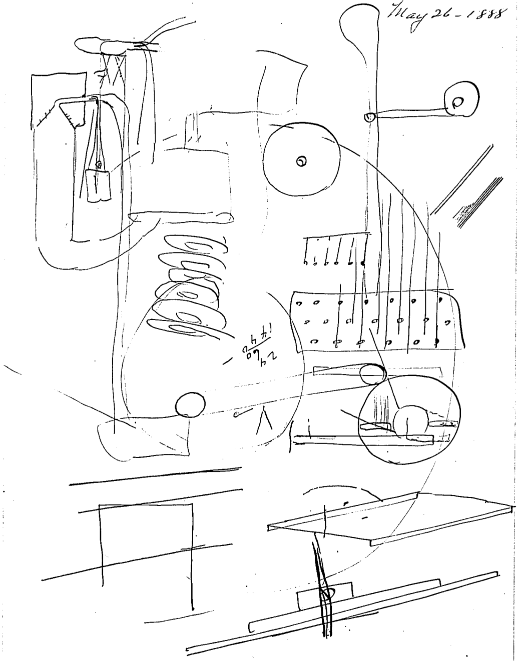
32 Cells on
812 000 ohms

4.50
300
1350000 4½

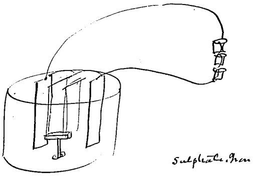
3 5000 cents.
1350) 10600 c (8 8c per ton
9450

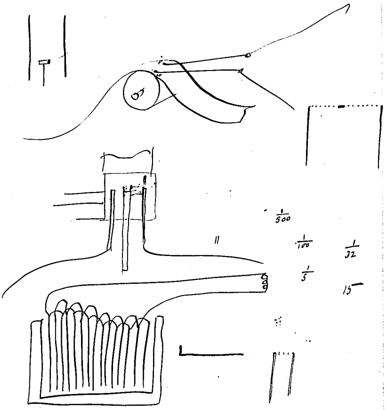
30

Mina M. Edison
May 26 - 1888



Mina M. Edison
May 26 - 1888


Sulphate Iron

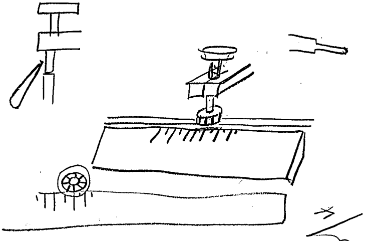

P
1/500
1/100
1/32
1/5
15

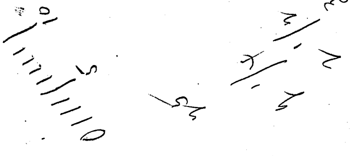
Mina M. Edison
May 26 - 1888

Phono	4.58
Motors –	1.29
Battry	.32
	6.19

6250
6
37500

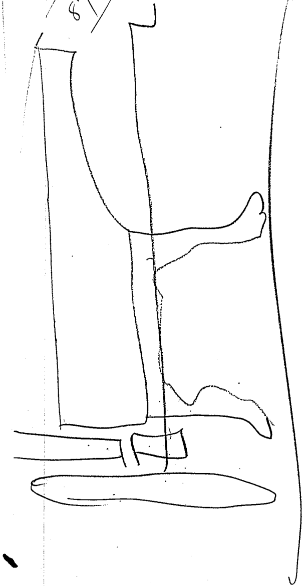
6 250
5



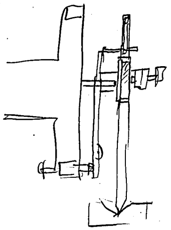

10
5
25
3/4
1/2
1/4

8760

Mina M. Edison
May 26-1888



Mina M. Edison
May 26 – 1888



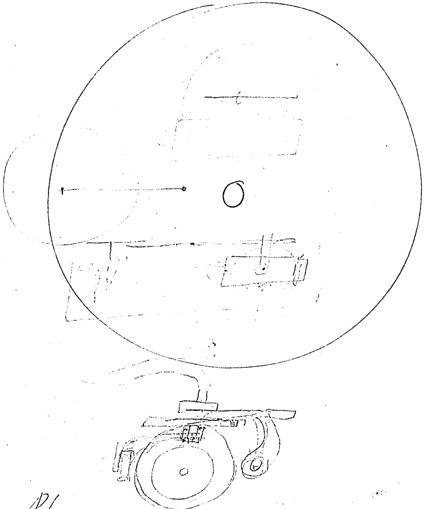
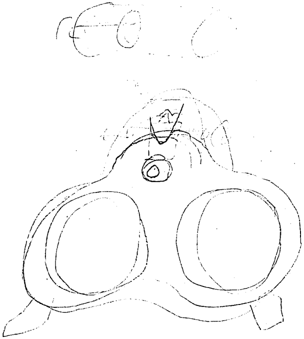


Plate attachment to
Reg phono
June 1 1888

TAE J F Ott

(1887)



Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.
Orange, N.J. 188

Subject:

Ore Separating

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, Ore Milling   Orange, N.J., June 11th 1888

The accompanying Samples of Iron Ore, passed thro the "Edison Magnetic Ore Separator" along with the Views taken of one of the plants now in Successful operation, give an adequate idea of the Modus operandi -

The Iron ore is broken ~~then~~ deposited by means of a chain of buckets into a crusher of the Blake type; thence precipitated down a slide into a circular inclined Sieve (10 mesh), 5 feet Diam. and 7 feet long, making about 12 ~~3½~~ rev. a min.

The sifted ore is then caught up into iron buckets in a similar manner to the one already described, depositing its load into the hopper, whilst the unsifted parts pass right through the drum, ready to be caught up and recrushed, thus making the process continuous -

The ore on reaching the Hopper of 30 cubic feet capacity (7×3 feet) is then allowed to fall at will thro' a slit 1/8" wide by 6 feet long in a straight stream, passed a powerfull Electro Magnet, and checked at any moment by closing the aperture or slit with a rubber edged brass bar, from below -

All the Magnetic or Iron particles are drawn over towards the magnet; but not allowed to cling to it, merely diverging the former from its course, whereas the Diamagnetic containing principally quartz, falls in a straight-line, forming two distinct streams which are

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, Orange, N.J., 188

Kept permanently apart by means of a Divider, as shown in View -

The Electrical energy required to saturate the magnet would be about 3 H.P.; tho' the strength of the magnet is easily regulated to suit the ore -

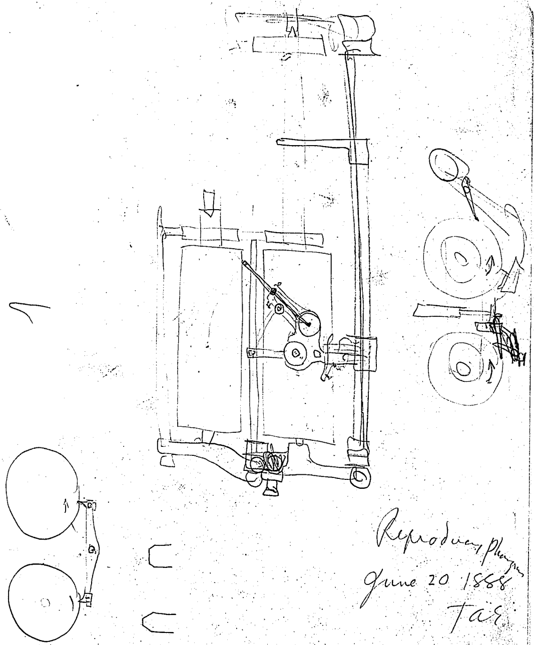
A long perforated iron tube, thro which a constant stream of air is passing, is placed directly above the Magnet in order to drive off the fine dust -

With the plants referred to, 180 tons of Iron ore can be crushed and sieved to a No. 10 mesh - and separated in 24 hours -

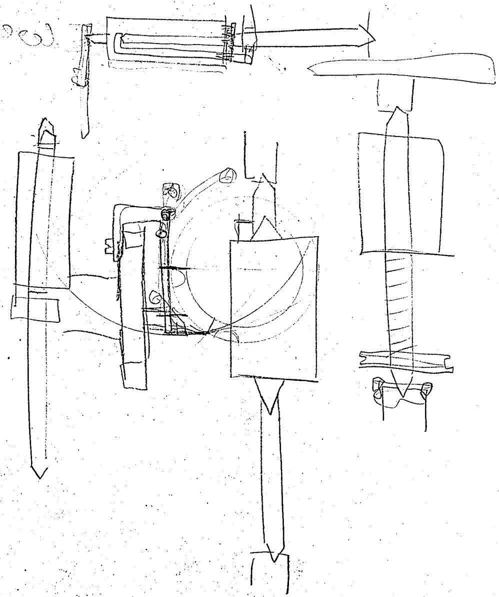
Iron ores containing 1.07% phosphorous give by analysis after Separation .006

It would be Superfluous here, in giving an out-line and description of the plant, to mention the Various Kinds of Iron-ore that have been successfully worked

Mngr
W. K. L. Dickson
Ore Milling Dept.



Reproducing Phonogr
June 20 1888
TAE



Dyer — June 25/88

I want to take out a patent for the new Dynamo with some modifications —

1st ring formed of oxidized iron wire, 400 wires wound simultaneously from 400 bobbins — This makes 400 plates so to speak formed of wire & not electrically connected — This reduces Focault Currents to minimum — The armature is a perfectly even one in diameter etc — mechanically speaking — is also quickly wound it would require 400 times as long to do it the old way —

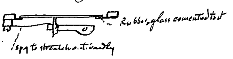
2nd Casting the Field in 2 halves —

3rd method of winding Field

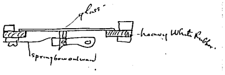
Batch will give you full particulars

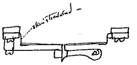
Ideas for Articulation Experiments on Phonograph

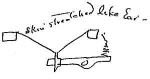
No 1

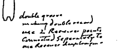

Rubber, glass cemented to it
spg to stretch vertically

No 2

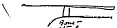

glass
heavy White Rubber.
spring bow outward


skin stretched –

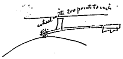

Skin stretched like Ear –

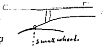

double groove making double record use 2 Receiver points connected separately to one Receiver diaphragm –

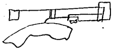
Steel 004 to 006 dia –



Bone –
Steel,
Jet tipped
Quartz tipped.
Rose wood
Hog bristle, Silkworm gut.
bamboo – bone – Rhinoceros
glass –
aluminum bridge wound with Rubber –

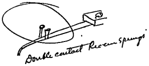

wheel with 200 points to inch

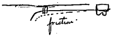

small wheel.

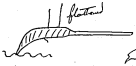


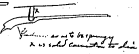
Smaller Receiver size Nickel but made in regular way —
glass receiver —

Felt receiver diaph
Cork diaphragm...
Asbestos diaph
Heavy Silk Shellaced dia for Speaker –


Double contact Receiver springs

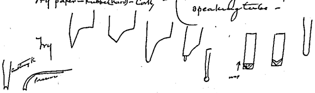





x
flattened so as to be spongy
x is solid connection to dia

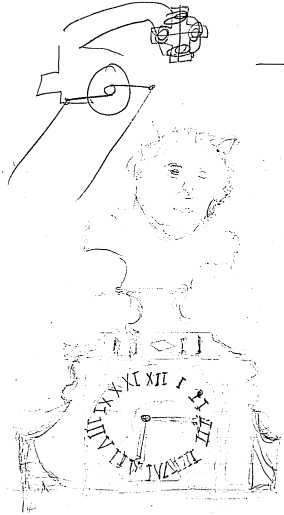
Special Spectacle
use larger Diaphm for trans in Reg way –

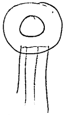
Try paper – Rubber (hard) – Cork – (make adjustable opening at bottom speaking tube –


Try
casting
way

Mina M. Edison
July 20, 1888.

Mina M. Edison
July 20-1888





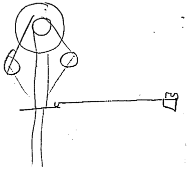
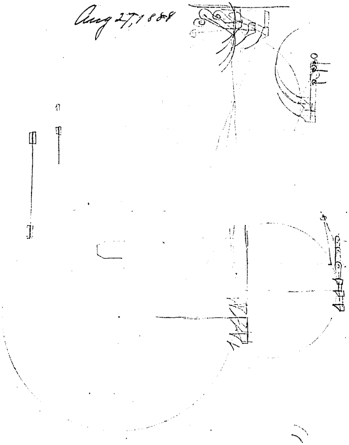
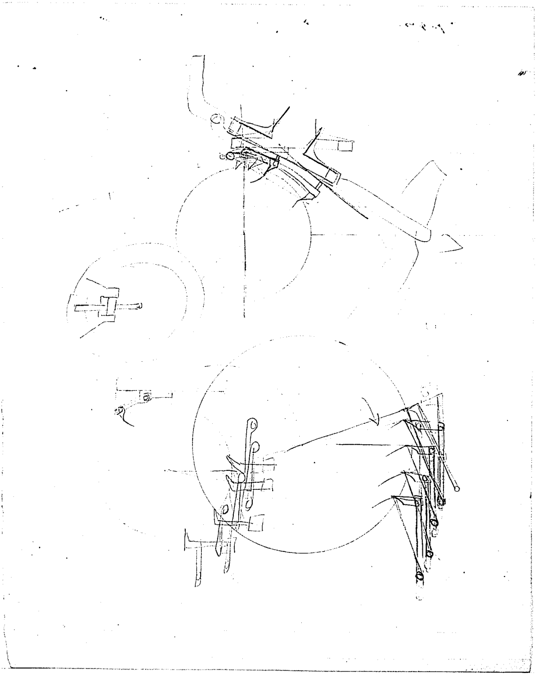


PHOTO)

Mina M Edison
Aug 27, 1888





Sept. 8th/88 No 1

Form:-

Nitrate Mercury	5	grams
Pyrites (gold ore) Brad.	200	"
Water	300	c.c
Nitric acid (or about 3%	10	" "

—

Stirred for ½ hour - & allowed to soak over night -

Liquid drained off and ~~put~~ ore placed in a muslin bag - then into centrifugal machine - & run ½ hour - until very dry -

Liquid taken off 1st time - without machine	=	210 cc
Liquid gained by centrifugal machine	=	40 cc
original amount 310.		250 cc

Phono Comment Sept 9 1888

TAE

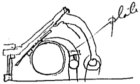
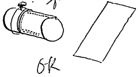


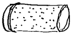
plate attachment


false shell with points

& straight strip flexible paper Coated with flex material. with one straight Edge & a flange ring ~~on~~ on Shell straight part of phonogm goes against it.

OK

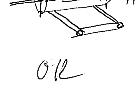
Double row points where joints meet. space in between to allow of Expansion

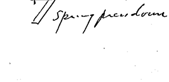


false shell with roughened surface or points. to wrap flexible phonogram around. & side ring to regulate

OK

platemachine have roughened surface of fine points to keep phonogm ~~blank~~ down also oil — also holes & air suction, also presser to press it flat near point

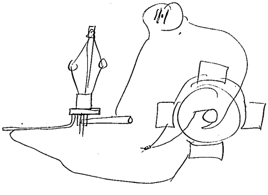


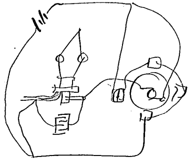

Spring press down

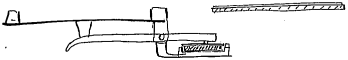
OK

OK

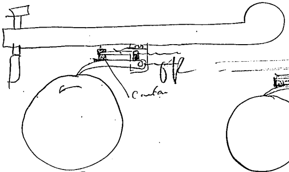
Plaster Paris cylinders or shells with groove like old phono put in them then Coated with thin sheet Oleate Salt also glue & glycerine, also films of / Chloride Sulphur on asphalt mixed with a fatty oil - also flexible Collodion - Balata & a salt of Oleate palmitate or a wax or Hydrocarbon mixed in a Solvent & film dried -

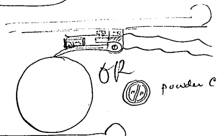


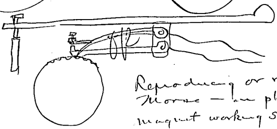




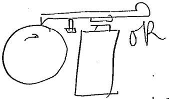
desk machine
heavy paper -
Covered with Recording material,



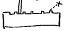

OR
powder Carbon -



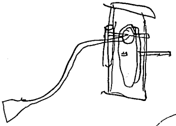
Reproducing or rather repeating Morse — on phono —
magnet working sub diaphragm or direct thus

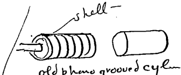


Recording tool



turning tool tracks a square place thus preventing wearing to Record both in cylinders or flat plates
x always acts as ground for record in bottom of groove between

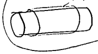




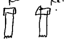
old phono grooved cylinder —
Continuous shell of Oleate
then turned use blunt razor cutting tool —

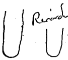
OK

silk ~~paper~~ cylinder very thin coated with flexible Oleate Palmitate Salts
+ colapsable —

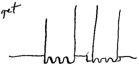


Woven flexible cloth blank
~~wax coated~~ or Oleate Palmitate
Coating flexible —

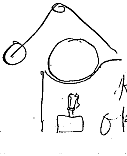




Recording tool.
Reproducing tool to get more bearing.



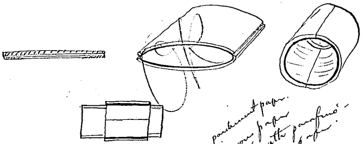
to get more bearing



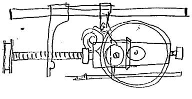
Heat Cylinder

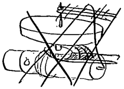
OK

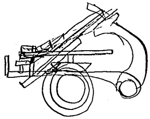
Notes phono Conical



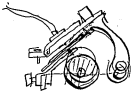
parchment paper.
or porous paper
filled with paraffine -
or ~~tissue~~ paper.





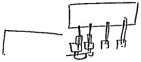


Describe it =



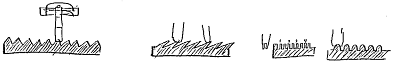
Turning off 6
one knife ahead
of other

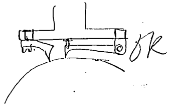
Stretched belt =

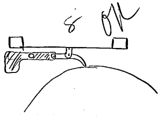


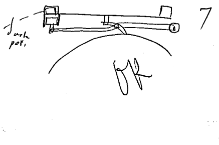
Notes phono
Caveat

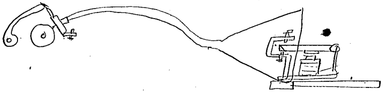
on Reg phonograph / One Knife 1/4 inch in advance taking principal chip other Edge close to Knife but one Knife ⑩ 1 Knife 2 Cutting Edges —
In preparing big Cylinders turn off with Several Knifes like a chaser one little deeper than the other — Turn inside with Knife working on a taper guide -





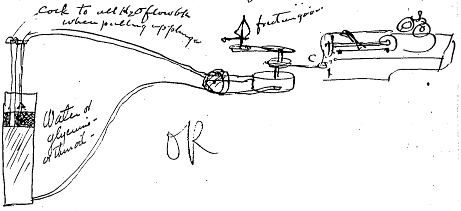






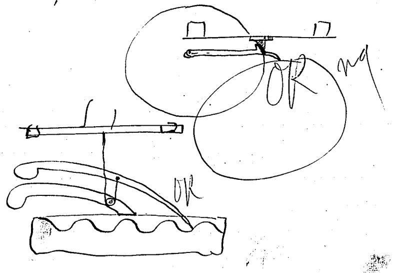
Telegh inst, recording by several dif quality sounds
High note, Low note, Several dif Sounders —
also Record Composite tuning fork sounds & then
reproduce them by tubes running to diaphs connected
to tuning forks — also as Morse Repeater recvg from
Washn & then transferring to Boston wire, the repeating
being done by Induction coil & Carbon button or better make
indentation work lever & platina point, / diaphragm worked direct by magnet from Wash
Telephone Recorder, phono left ready on ringing Call
bell. release lever closes ckt & Connects
Receiver to phono. runs until rung off —
~~Several tubes~~ Swinging large funnell
for Music, Metallic Connection no braided
tube — Metallic funnell bound with Cord
or other deadening Material.

Sept 11 1888 TAE Phonogh Caveat,


Cock to all H_2O flow bk when pulling up plunger
friction gear
C
Water or glycerine or thin oil -
OK

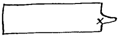
---

an agate of Saphire or Iridosmine Cutting tool point -



Sept 11 1888 Phonogh Caveat –

A cylinder of paper ~~wax~~ of say $\frac{1}{64}$ — over this a thin sheet of paper put on tight & fastened by lap & cement. This is coated with recording material turned off thin & then covered by a new sheet of paper & this covered with with recdg material & so on until a Composite Cylinder is built up $\frac{1}{8}$ inch thick the end x stix out so they can be turn off & Expose

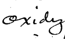


a fresh recording surface from time to time

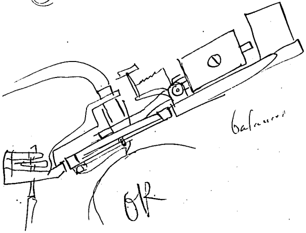
Sewed Belts – Sewed Belt with silk surface – Crowning

For tracing dipped paper phonograms – dip in Recording material. then put in a polished mould & Run in a taper to force paper to proper taper & true the wax – use a press —

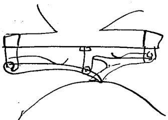
Phono Caveat
Sept 11 1888

Phonogram blanks for giving a surface (ie) material outside
of recording surface, Hot asphalt Moulded by pressure,
ditto mixed with powdered mica, Saw dust, Lime,
Talc; Cylinders of Plaster Paris, ditto soaked
in asphalt in a solvent Linseed oil & other
things to make them impervious to moisture,
paper wound on a mandril  several layers
thin paper, — ditto paper soaked in paraffine,
Oleate lead Linseed oil Oxidized afterward
by Chloride sulphur fumes, Rosin hot,
and also of the same material the recording
surface is made of — Rosin & Paraffine,
Rosin & Linseed oil, Castor & Olive oil &
then treated with Hyponitric acid any
fatty oil made solid by De chlorinizing
agent like perchloride of antimony or
Chloride sulphur, Paper soaked in hot
asphalt solution, in any resin or gum made
soft by a solvent or semisolvent or a
mixture with a softer body when hot which
on cooling will be somewhat flexible —

Phono Caveat

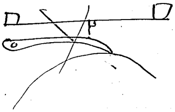


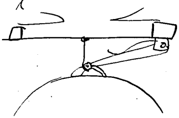
Sept 11 1888 Phono Caveat



OK

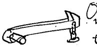
good





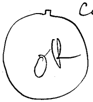
OK

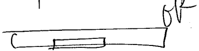
Notes for new phono patent.



OK made of material same size as the width of the point

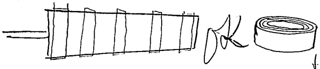
Centering device -



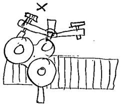


snap remembrance.

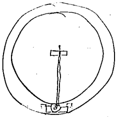
Have I patented a removably secured Recorder & Reproducer - Sewed belts, sewed belts with silk or cloth surface - Crowning pulleys.


OK

Nest of paper Cylinders for marking -

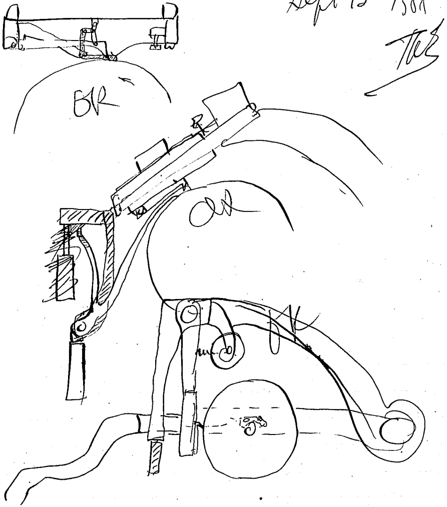


Strip paper wound spirally. Return screw used with proper pitch set X ahead Each return for marking unwound strip put in pill box & Coil up on other phonogh- & use a receiver adjustable same way but if strip disturbed have a big side movement to receiver



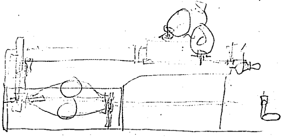
Side movement Cork has smooth top of shellac metal Etc.

Phono Caveat -
Sept 13 1888
TAE

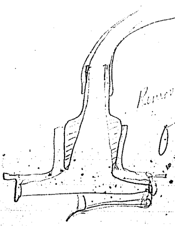


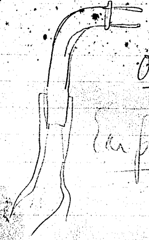
Phono Caveats — Sept 13 1888

TAE

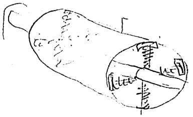


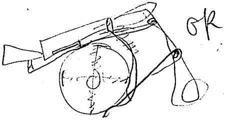
Hand Machine -

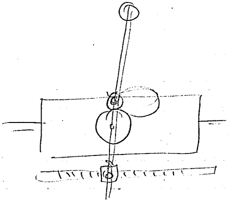

Removable Listener
OK


OK
Ear piece

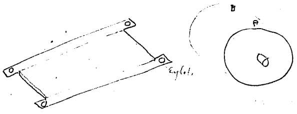
Phonograph Caveat



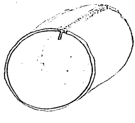




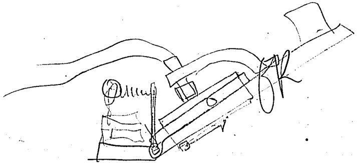
Phonograph Circuit



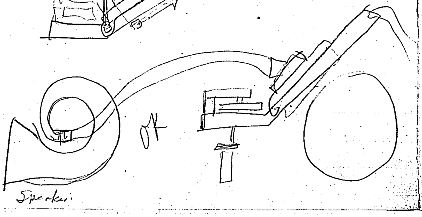
OK



OK



OK



OK

6885
40

6
78.85
40
3154.00
7885.
11039
20
2207.80
11039
132.47

7.1

1250
1200

50

75
75.
52
150
375
390

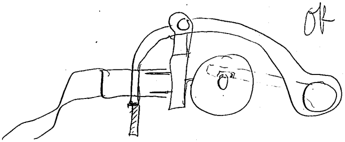
25.00 Lab
40.00
20.00
85.00

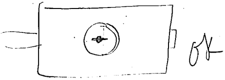
52
20
100

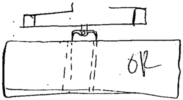
34.40
11.46
9.
20.46
8
28
20
560
28
33.60

115
40
4600
115
161.

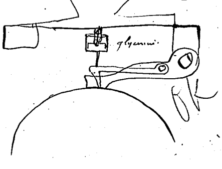
160
12
1920







double track,
double Receiver
point


glycerine
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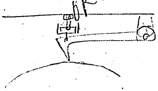
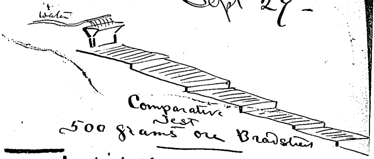


Sept 27 -



Comparative Test
500 grams ore Bradstreet

No 1 With nitrate of Mercury
& Without nitrate of Mer.

Without nit.
Took 500 grams ore - Brad.
went over plates 3 times -
weight of Mercury before 400 gram
" " " after 378 "

weight of gold =

No 2 With nit. of Mer Sep. 28

500 gr. ore - in
500 " water
10 " nit. acid
5 " nit. of Mer.

2% nit. acid
1% nit. mer

$AgS.$ = Sulphuret of Silver
undecomposed

$Sb.S^3$ = Cinnabar, Sulphide of Arsenic
sometimes volatize, unchanged

FeS^2 to $Fe.S.$ not further reducible

$Pb.S.$ Galena when roasted is
reduced to a lower state

$Pb^4S.$ part of lead separating out in
a metallic state

Sulphide of Zinc or Zn Blende
remain undecomposed

Cu glance retains its sulphur & Cu
Pyrites loses only one part of
the sulph. which is combined with
the Iron in it.

Roasting of ores Oct 4/88

Treated according to the predominant Gangue such as Calcarious ores - quartzose or ochery ores - or according to the predominant metallic mineral :- as Sulphuret ores Chloride ores Carbonate ores -

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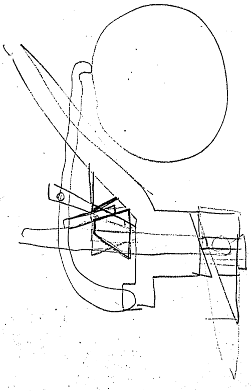
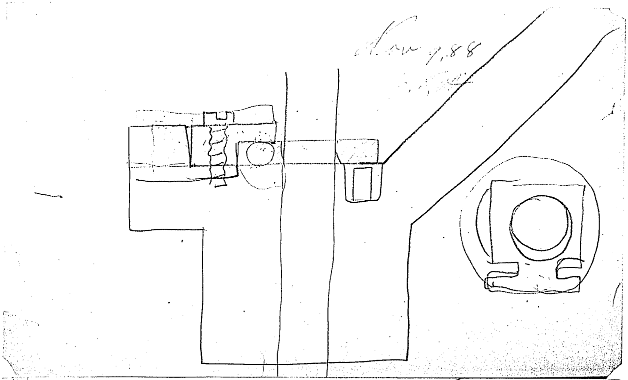
Stephanite, or sulphuret of Silver & antimony (brittle silver ore)

Nov 9 88

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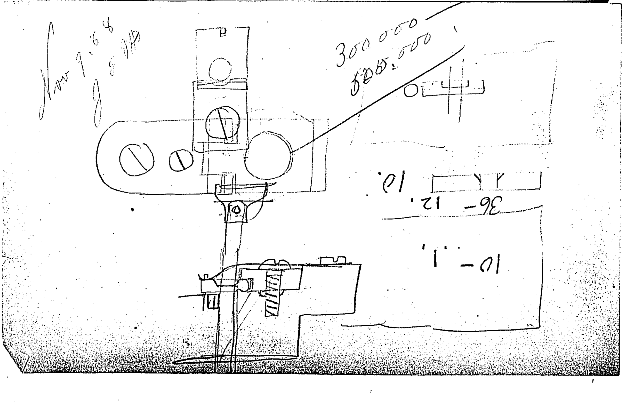
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Nov 9 1888
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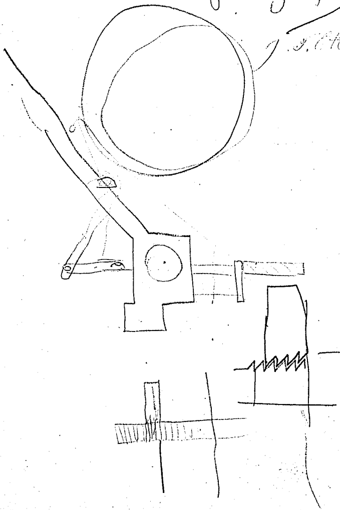
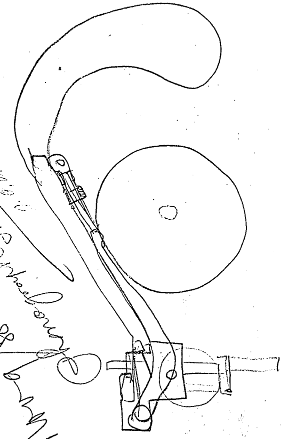


J.F.Ott



Nov 9/88
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J.F.Ott

Nov 9 1888
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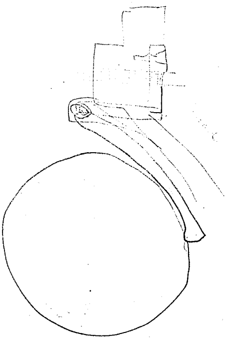
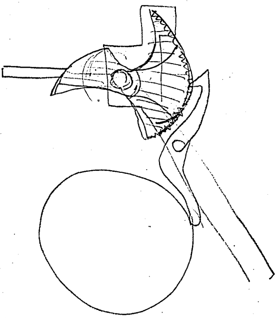
J.F.Ott





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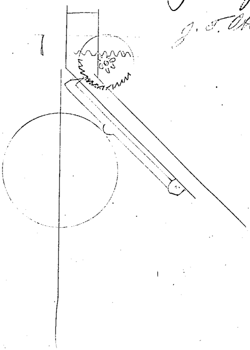

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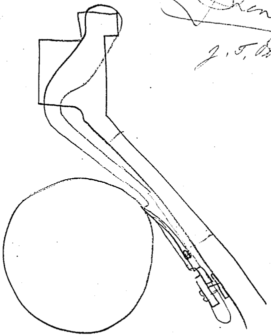
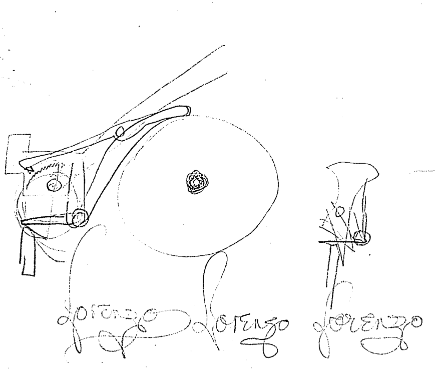
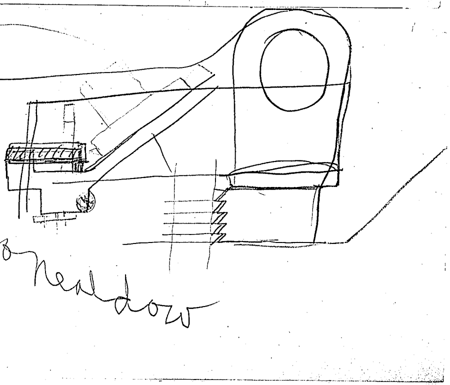


Plymouth Nov 9 1866



Lorenzo Lorenzo Lorenzo

Neal Dow



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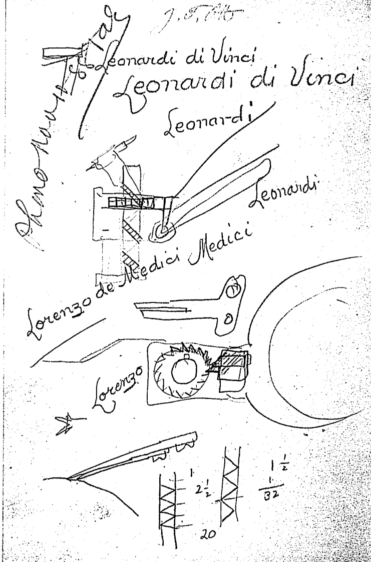
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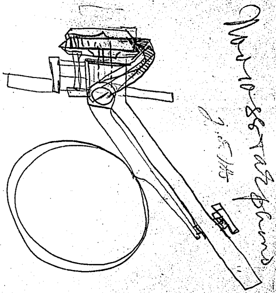

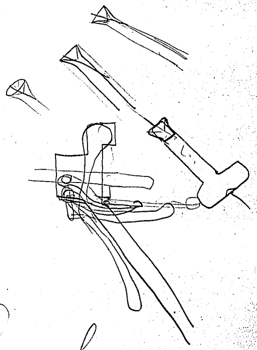

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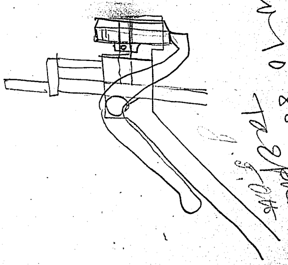

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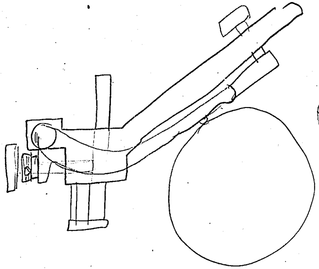
J. F. Ott



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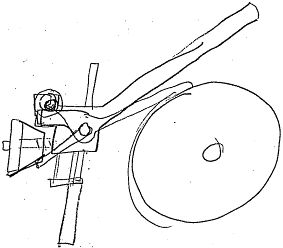

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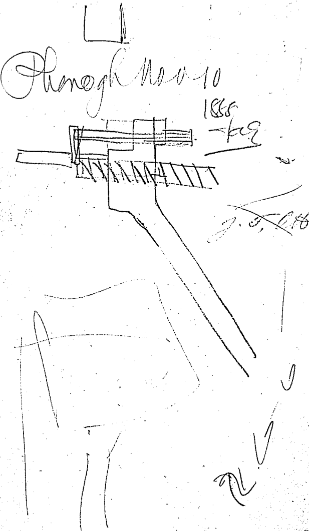

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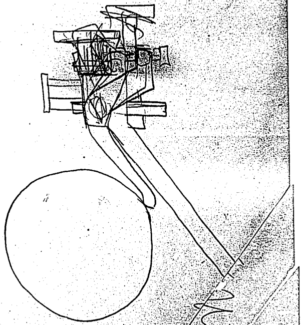

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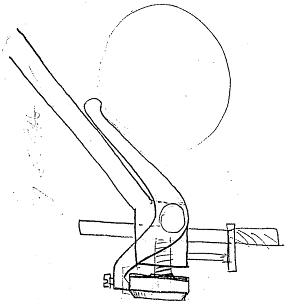

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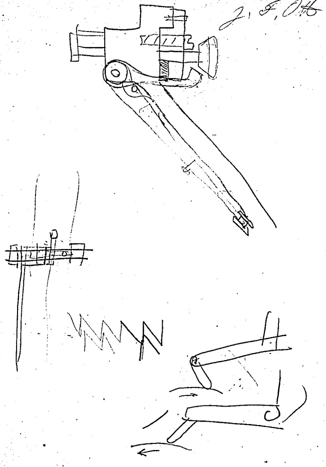

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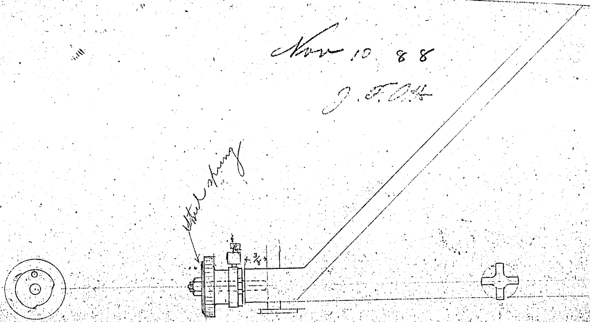
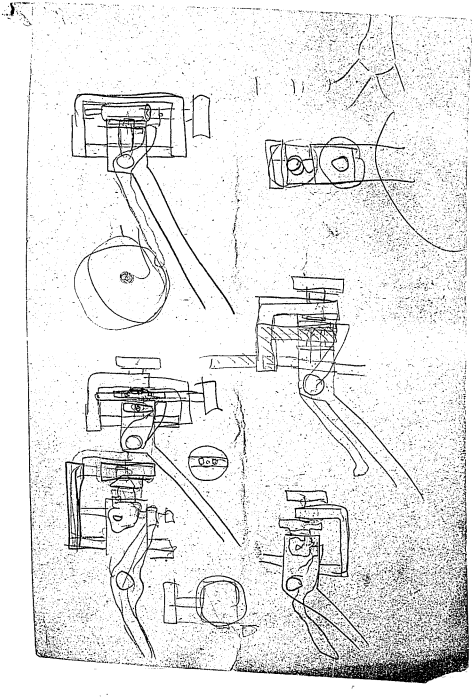

Steel spring
3/8



Nov. 15/88

-Exp.-

1st Select from "Randolph Union" ore a chip off each block, to get a fair average - as already explained - total to weigh about 2 lb. -

2nd Crush to pass all thro' No 10 mesh - creating as little fine dust as possible -

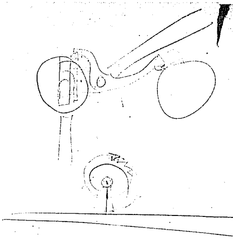
3d Make separate heaps, sifted thro' No's:-

#10, #20, #40, #60, #80, #100
#120, #140 -

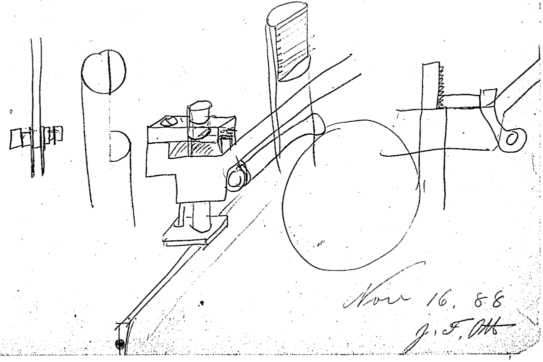
4th Roast each heap "dead" -

5th Take part of each heap, each weighing equally, grinding same in agate mortar, placing them in separate dishes - labeled:- No 10, ground, #20 ground etc

6th Be careful to mix thoroughly each heap - so as to get a perfect average - .



Nov 16. 88
J. F. Ott



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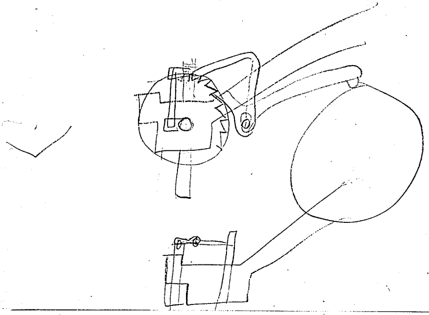
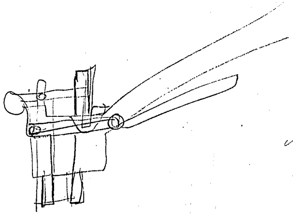


Nov 16, 88
J. F. Ott

50

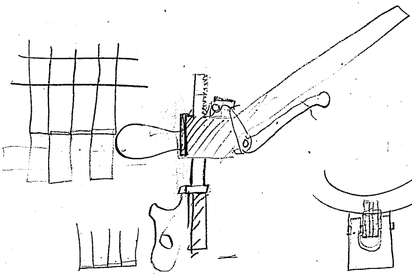
120

25



Nov 16, 88
J. F. Ott

Nov 17 88
J. F. Ott



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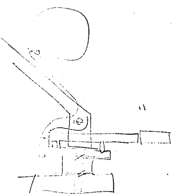
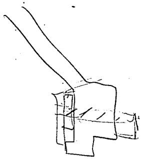




Dickson - Ore Milling

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, ____________ Orange, N.J., Nov. 24th 1888.

Changes made in Ore Milling. Out house -
- Room 22 -

1 - Means of regulating and moving Magnet at a moments notice -

2 - Scales graduated to accurately determine position of "magnet" and "dividor" (glass covered to keep out dirt)

3 - New Dividor with easy means of regulating amount of "Mugwump" - (graduated)
also trays for "Mag." & "Div." for daily work -

4 - Every ore carefully examined and stenciled - also entered in book -

5 - Closet (shelved) to keep samples after separation and Exp. for reference at any time -

6 - Shelves for large box samples -

7 - Bell at door to call attendant, also

Connected with room 18 -

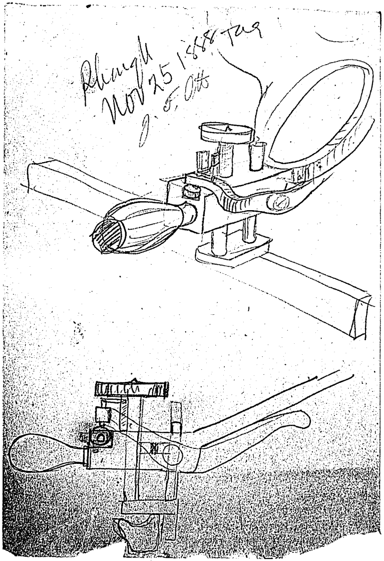
8 - Table to place samples on for Examination

9 - Door bolted and fastened between Blacksmith Shop and Metallurgical Dept.

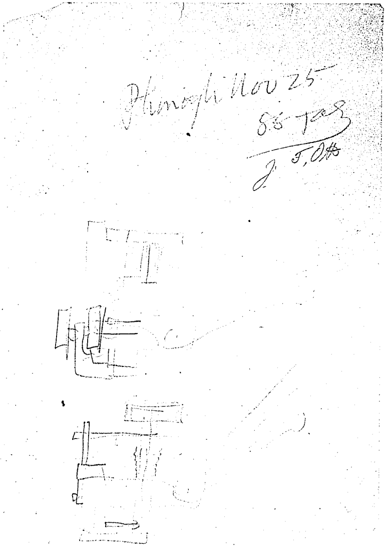
10 - Register for Visitors - appointments - & ores coming in,

Submitted Nov. 24th/88

Wm K. L. Dickson

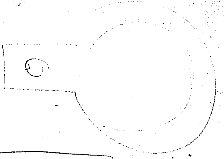


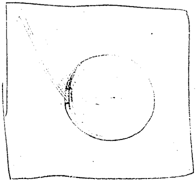
Plough Nov 25 1888 Tag
J. F. Ott

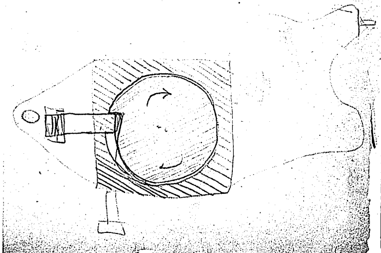


Plough Nov 25
88 Tag
J. F. Ott

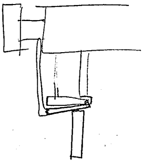
Plymouth Nov 25-58







Plymouth Nov 25-58



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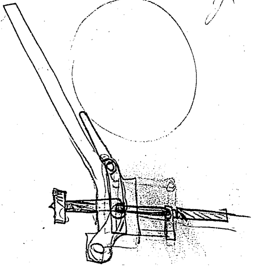
J. F. Ott



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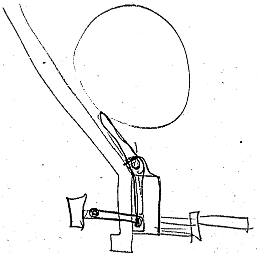

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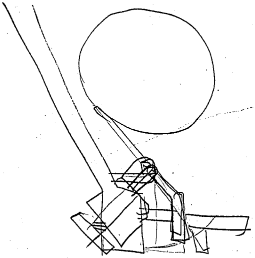
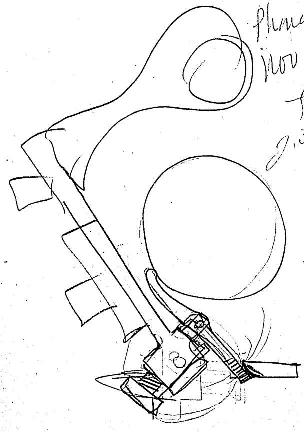
J. F. Ott





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Nov 25-88

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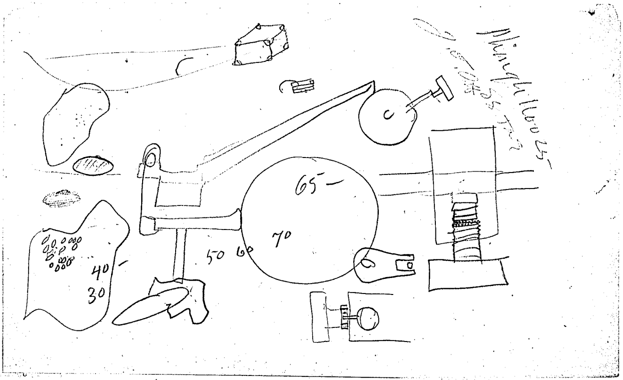
J. F. Ott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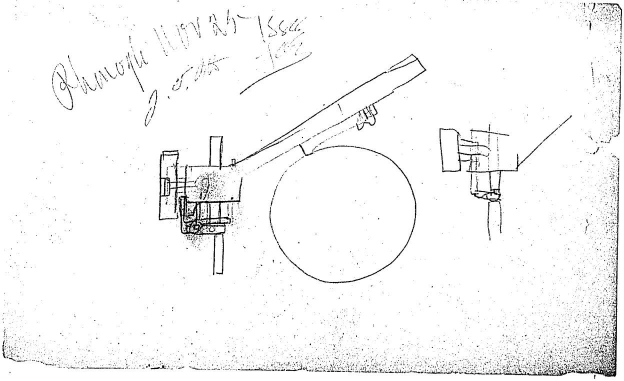

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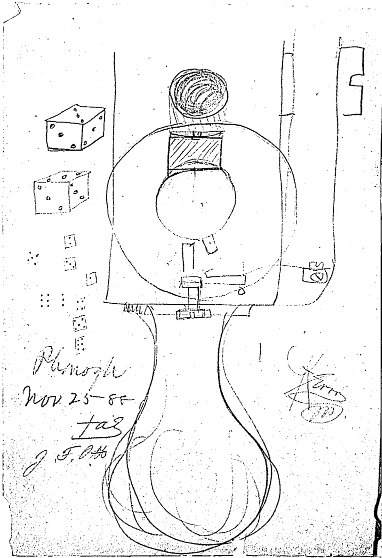

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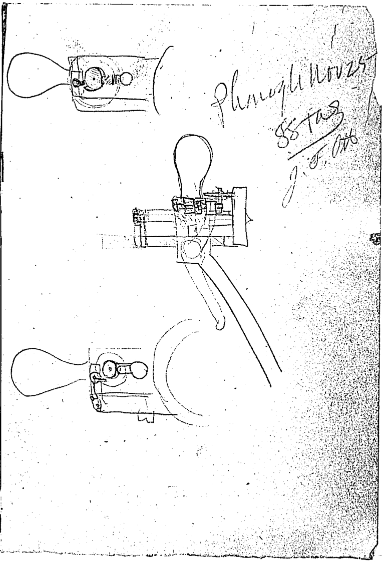

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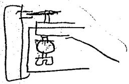

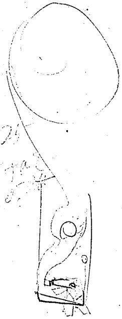

Through Nov 25
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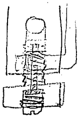

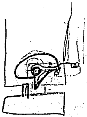

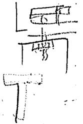

Through Nov 25 88
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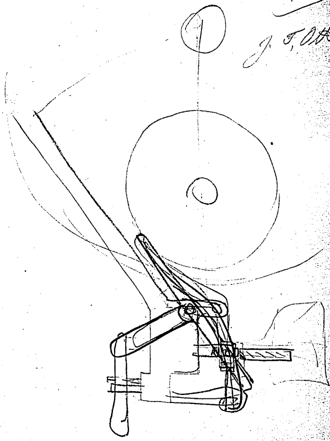

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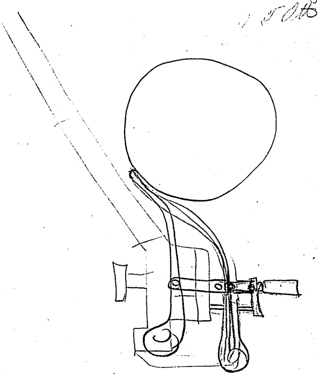

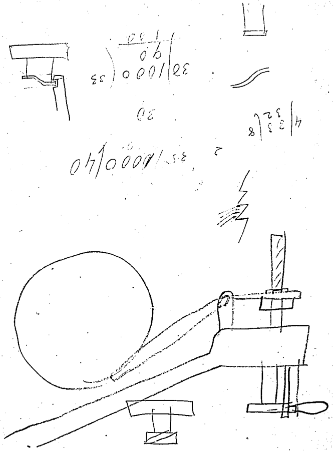
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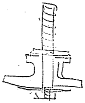
J.F. Ott



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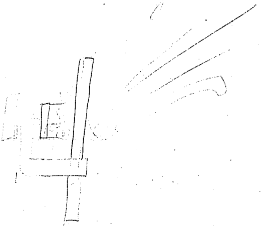

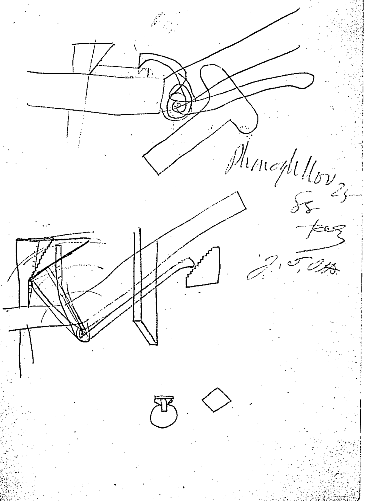

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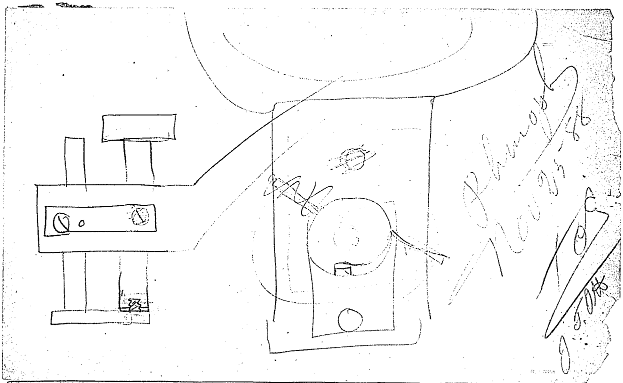
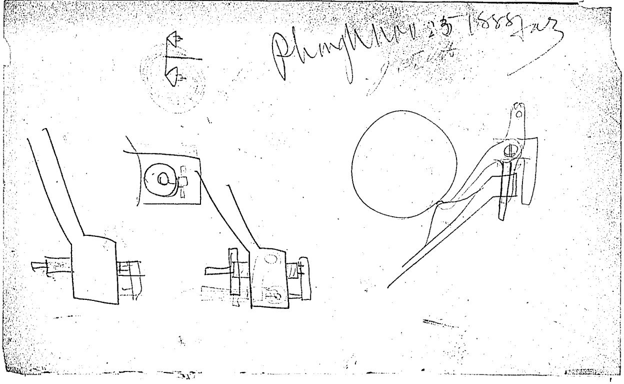
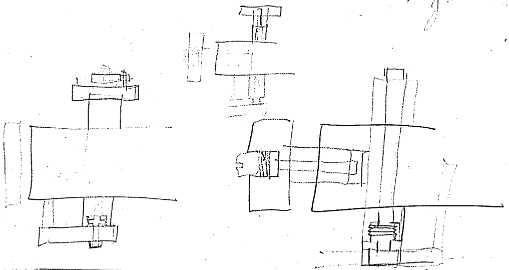


Phonogh
Nov 25 – 88
TAE
J. F. Ott



Phonogh Nov 25 1888 TAE



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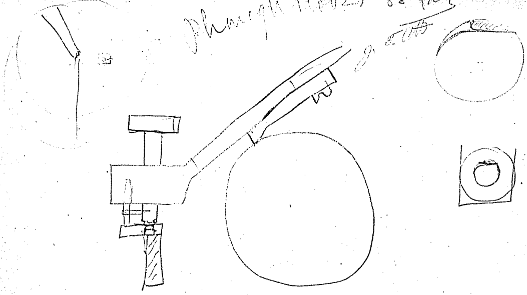
J. F. Ott



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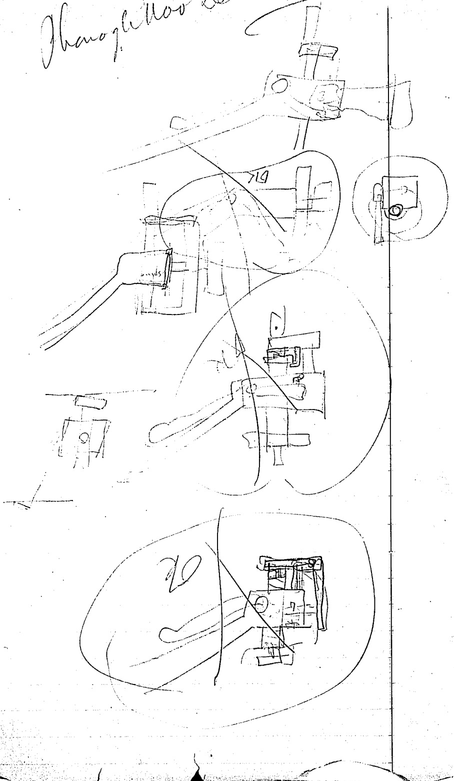
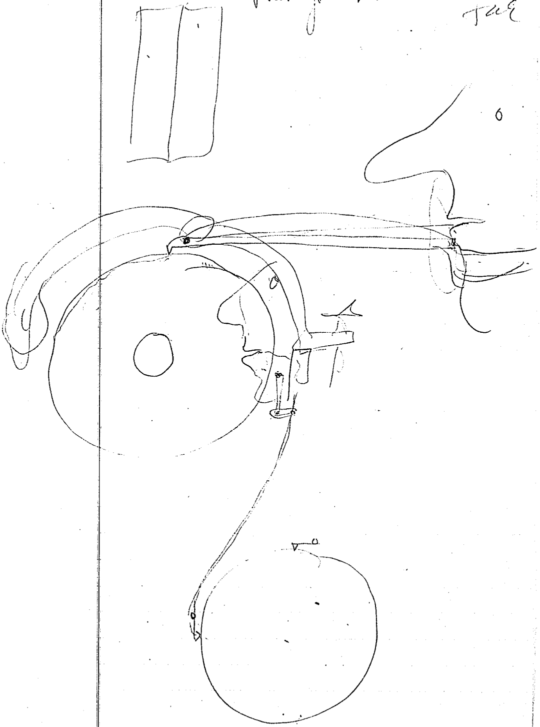
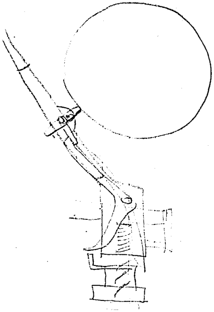
J. F. Ott

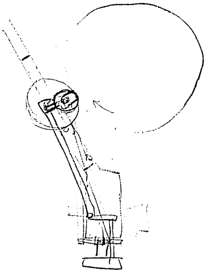
Phonogh Nov 26 88 9a3

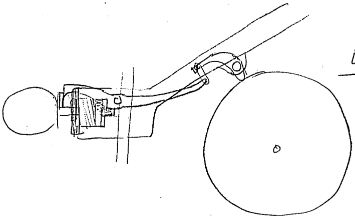


Phonogh Nov 26 88
TAE









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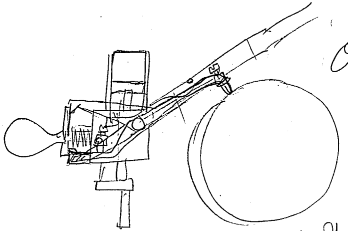
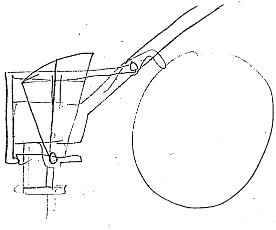
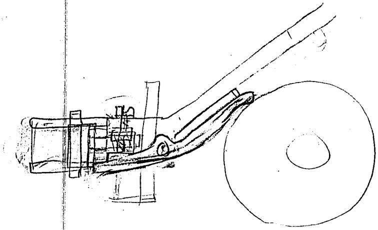


OK -

Nov 26 88 phone to E





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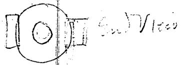


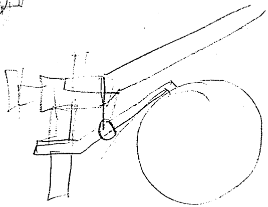
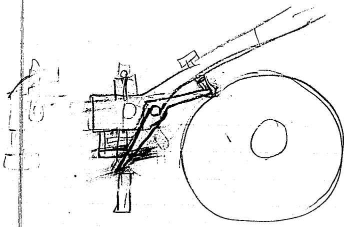


Photo Nov 26/58

TA?



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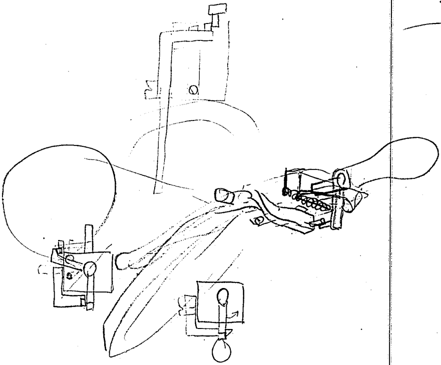
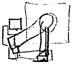
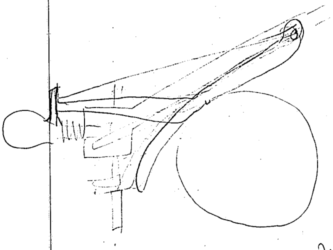
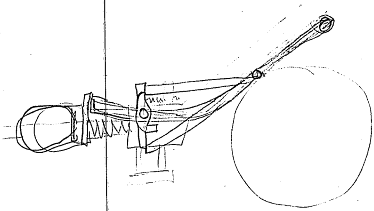
TAE





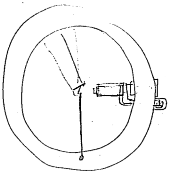




Nov 26 58.
Phono
Tab

Phonogh Nov 26 88

TAE



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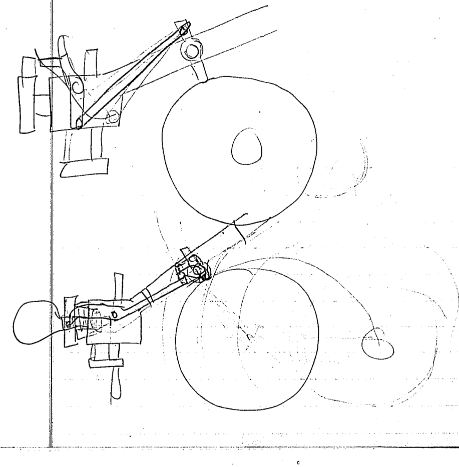
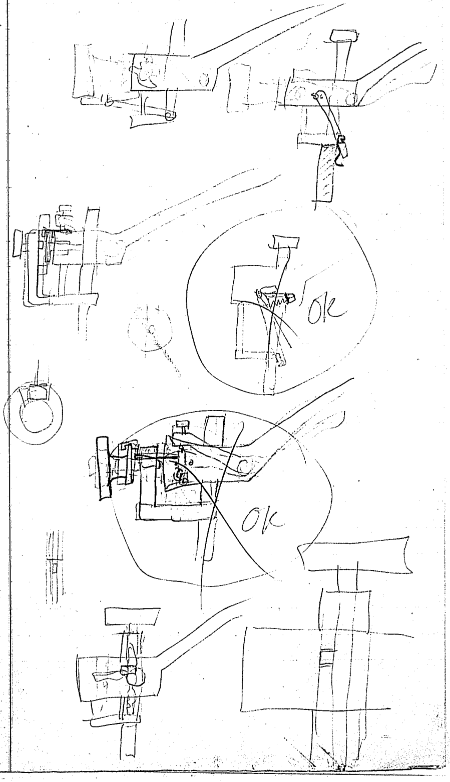
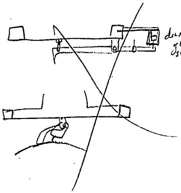
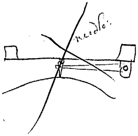
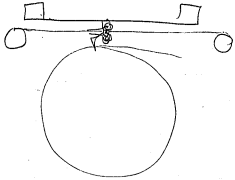


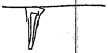
phaoglill0026 SS jpg

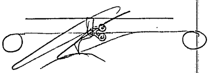


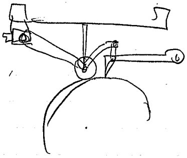

double pad with glycerine & stuffing box

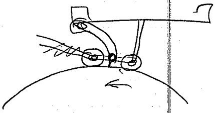






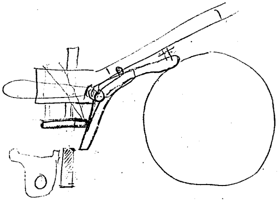


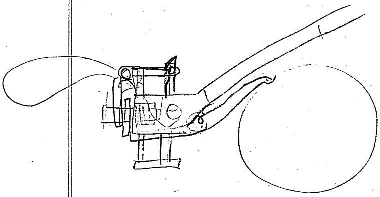




125
50
17½

Nov 26 1888 Phonogh Toy





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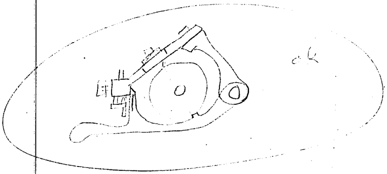
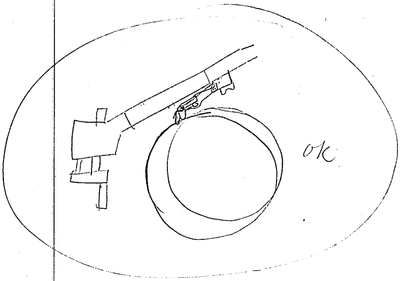
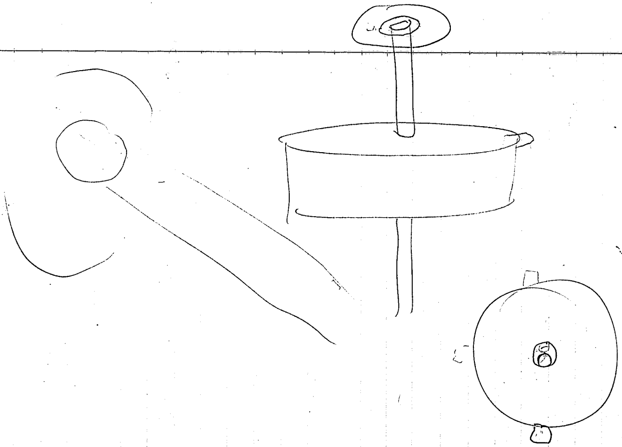
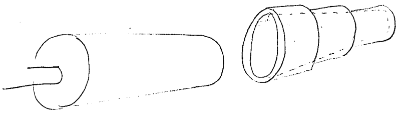


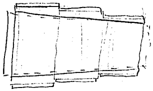


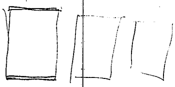
Phono Nov 26 88

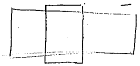
TAE

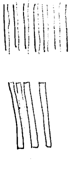


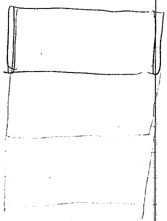


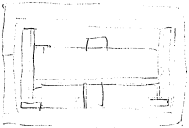


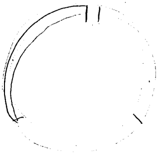


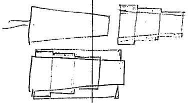


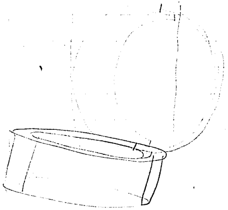


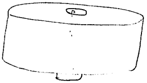


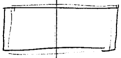


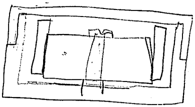












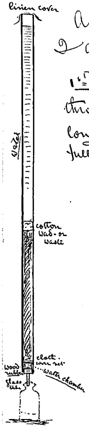
Dickson Ore Milling

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, ________ Orange, N.J. Nov. 27 1888
- 10. pm. -

Report of progress
made in Displacement Exp.


Linen cover
Water
cotton wad - or waste
cloth . wire net
Wood rubber
Water chamber
glass tube

After several mishaps such as bursting tubes I arrived at the following :-

1st Exp. That an ore previously moistened (or water passed thro once) when filled to top with water, takes 2½ times longer to go thro than when fresh dry ore is used - full data if wanted -

2nd Exp. -

3lb. acidulated water (1% nitric) I allowed to soak down to ore level, then put waste wad on top - washed down the sides of tube to free same from acid which I sucked out again then filled up the tube to the top keeping same full all day & nights - changing & repeating -

Every few hours I tested the drippings for acidity & on reaching the last drops or few oz of the commenced with 3 lb the acidity rapidly decreased - and on getting up to 3 lb. 6 oz (6 oz over) there seemed to be barely a trace when tested with Bruceene -

Each Sol. is kept at the end of every lb. of liquid for analysis, if so desired -

It will barely be possible to eradicate "traces" of acid, even when twice its Volume has passed thro -

The Exp. of course is continued to verify the above - tho this appears quite satisfactory it might be well to analyse the results or drippings taken at each lb.

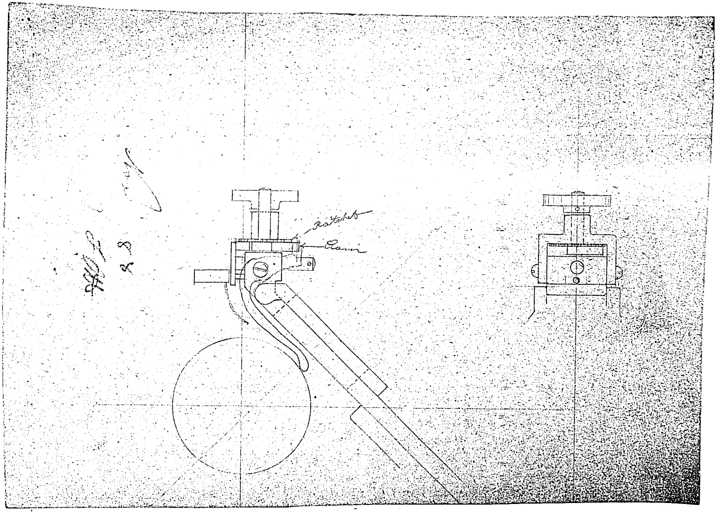
These Exp. Seem O.K.

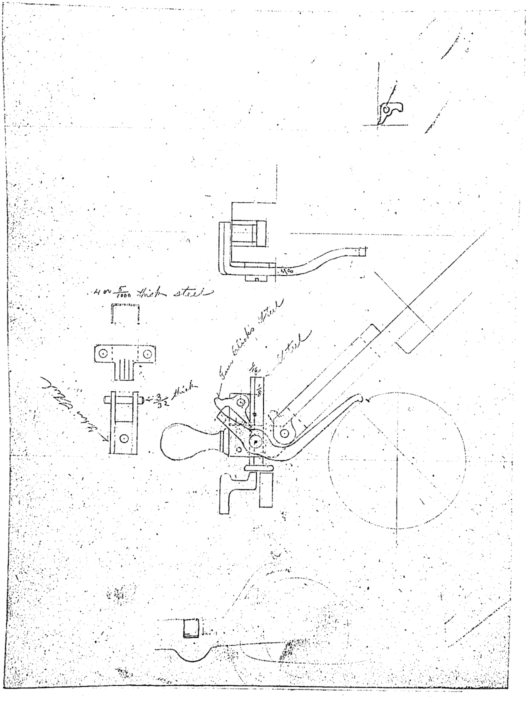
Having waited unnecessarily long for the silver plates I thought it the best plan to go over ~~this~~ first thing. Wed. morning to N.Y. & see what I could get all ready for the Daguereotype Exp. hoping this may meet with your approval

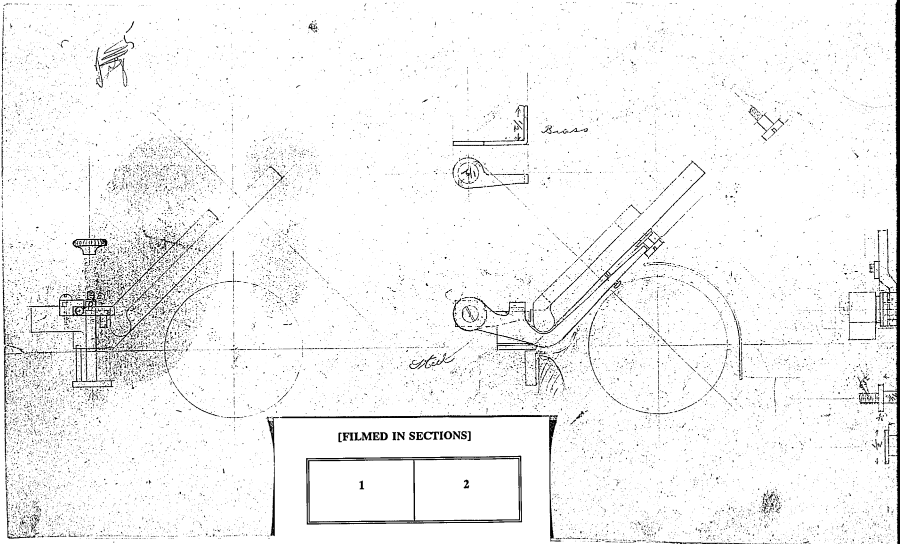
I remain Sincerely Yours

W. K. L. Dickson

Mr. Brown is preparing other tubes & crushing ore.


#10 2
28
Ratchet
Cam

.4 or 5/1000 thick steel
3/32 thick
Two blocks steel
Steel
1/16
1/8
.400

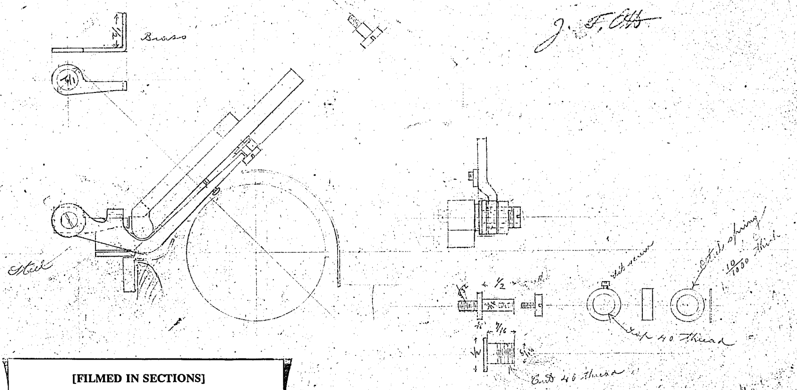

Brass
1/2
Steel

[FILMED IN SECTIONS]

1	2

Nov 88

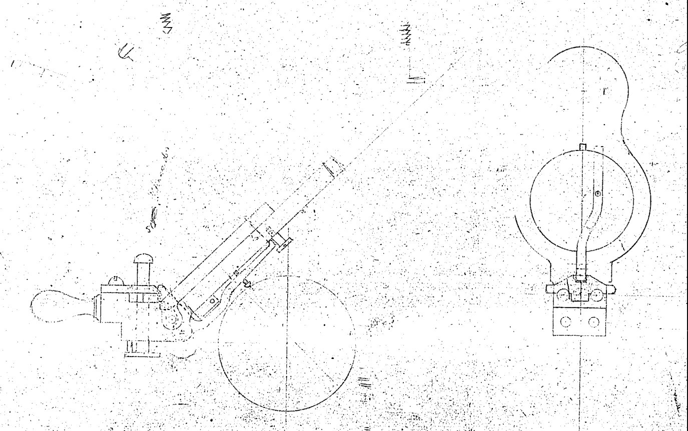
J. F. Ott


1/2
Brass
Steel
1/2
1/16
7/16
1/2
5/16
Set screw
Steel spring
10/1000 thick
Tap 40 Thread
Cut 40 thread

[FILMED IN SECTIONS]

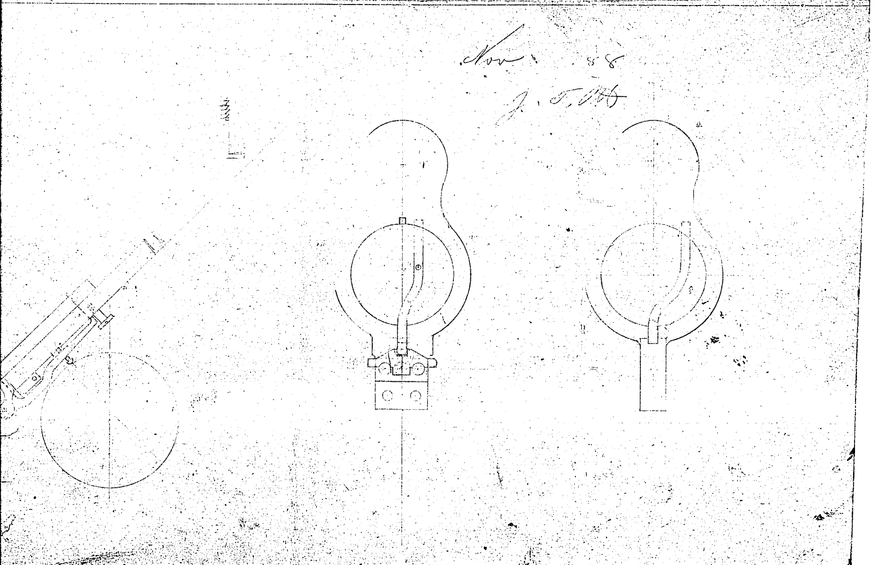
1	2

Fig. 6



[FILMED IN SECTIONS]

1	2



Nov. 88

J. T.

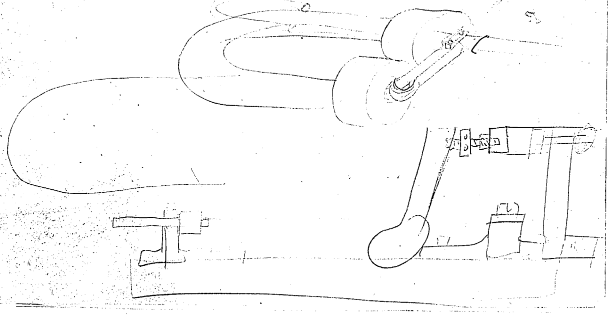
[FILMED IN SECTIONS]

1	2

Sketches

Model drawing Dec 5.88

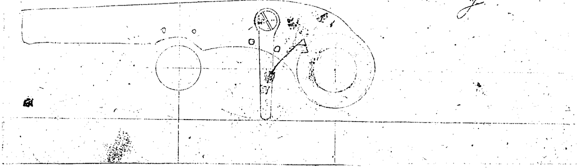
J. F. Ott



Dec 10, 88

J. F. Ott

Motion D prevents
nut riding up screw



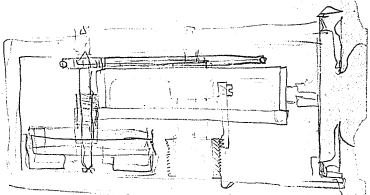
Dec 18/88

Hydrochl. acid (hot) treat then, wash clean — & try mercury, observe results —

Sulphuric — warm 2%. observe mer.	Save Sol for analysis
Sulph. Cold. 2%. observe mer	Save Sol. for analysis

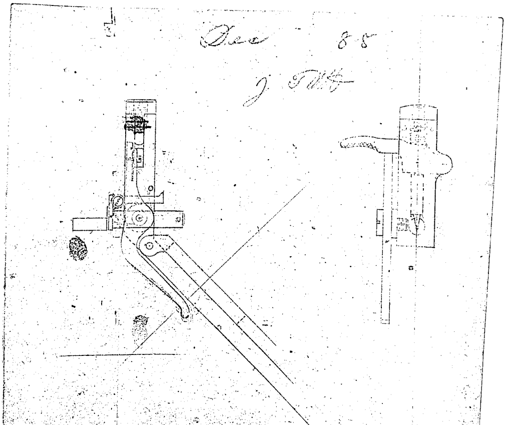
Nit mer. & mer — to amal. Zn plate

Treats on with 2% Sulph. acid — then wash clean — then use 2% Nitric as usual for displacing



Dec 1886

J. F. Ott



Dec — 85

J.